INSTRUCTION MANUAL

D-Series Warming Cabinets

Installation - Operation - Maintenance

CAUTION

Read and understand all of the instructions and safety information in this manual before operating this product.

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TABLE OF CONTENTS

Summary 3
D-Series Warming Cabinet Models 4
Interior Dimensions, Cubic Foot Capacity, Approximate Capacity ***5***
General Specifications 7
Main Features of a Typical Warming Cabinet 8
Warnings and Cautions 9
Unpacking Instructions 11
Receiving Requirements 11
Installing D-Series Warming Cabinets 12
Environmental Conditions ***12***
Installation ***12***
Testing before Using ***12***
Installing Warming Cabinet Leg Levelers ***13***
Optional Direct Wiring Using Facility Power Supply 14
Basic Operation 15
Recommended Settings ***15***
Loading Contents in Cabinet ***15***
In Case of Power Failure ***15***
Explanation of the Controls ***16***
Operation of Display Panel ***17***
Installing the Shelves ***18***
Adjusting the Shelves ***18***
Installing and Adjusting Optional Roller Basket Shelves ***19***
Unloading the Warming Cabinet ***20***
Retrieval of Recorded Temperatures ***20***
Turning Off the Warming Cabinet ***20***
Troubleshooting 21
Overheat Alarm (HI) Condition ***21***
Cleaning Stainless Steel Warming Cabinets 22
Preventative Maintenance Checklist 23
Replacement Parts - General 24
Replacement Parts - Header Assembly and Electrical Drawer 25
Optional Cabinet Bases, Mobile Bases and Mobile Stands 27

TABLE OF CONTENTS (cont.)

Steel or Glass Door Hinge Reversal 28
Remove Panels *28*
Remove Header Assembly Box & Relocate Cam Lock *29*
Purchase Parts Needed for Cam Lock Reversal *29*
Glass Door Hinge Reversal and Re-installation 32
Steel Door Hinge Reversal and Re-installation 37
Purchase Parts Needed for Door Hinge Reversal *37*
Wiring Diagram - Single Chamber Warmers 40
Wiring Diagram - Dual Chamber Warmers 41
Wiring Diagram - Triple Chamber Warmers 42
Index 43
Preventative Maintenance Record 44
Notes 45
Notes 46
Limited Lifetime Warranty 47

Summary

DESCRIPTION OF PRODUCT

This manual covers the D-Series (Data Logging) blanket and fluid warming cabinets, manufactured for commercial use only. These include the single, dual and triple chamber units.

PURPOSE OF THIS MANUAL

This manual is to provide the user instructions in the installation, operation and maintenance of the D-Series warming cabinets.

This manual also contains general specifications, warnings and cautions.

Indications for Use:

The MAC Medical Inc. Blanket and Solution Warming Cabinets are designed to store and warm blankets, hospital linens, irrigation fluids, and/or injection fluids in accordance with recommended warming temperatures and storage time guidelines provided by the manufacturers of such products.

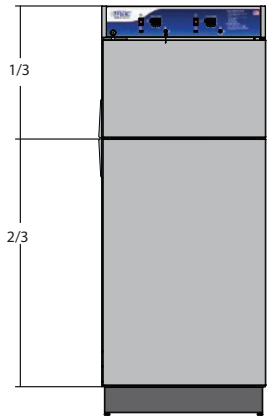
℞ Only

D-Series Warming Cabinet Models

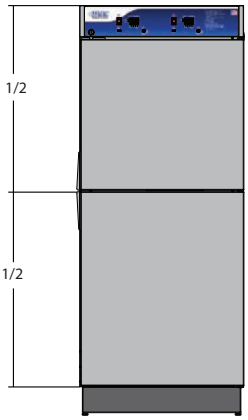
Model #	Overall Size	Chambers	Door Type	Door Hinge	Base Style	Other Options
SWC151822	17.25"D x 18"W x 22"H	Single	G=Glass Door	LH=Left Hinge	2B = 2" Base	220 = 220/240V Power Supply
SWC182424	20.5"D x 24"W x 24.5"H	Single		Blank = Right Hinge (Standard)	4B = 4" Base	C = Celsius
SWC242424	26.5"D x 24"W x 24.5"H	Single	Blank=Stainless Steel Door (Standard)		6B = 6" Base	R1 = Recessed Unit with Insulation Wrap, no Top Panel, no Side Panels and no Trim Kit.
SWC183024	20.5"D x 30"W x 24.5"H	Single			NB = No Base	R2 = Recessed Unit with Top Panel, Side Panels, and Trim Kit.
SWC243024	26.5"D x 30"W x 24.5"H	Single			MB = Mobile Base	SB = Seismic Braces
SWC182436	20.5"D x 24"W x 36"H	Single				WB = Roll Out Basket
SWC183036	20.5"D x 30"W x 36"H	Single				P = Pass Through Chamber
SWC242436	26.5"D x 24"W x 36"H	Single				IV = IV/Injection Fluids
SWC243036	26.5"D x 30"W x 36"H	Single				ST = Sloped Top
SWC182464	20.5"D x 24"W x 64.75"H	Single				EL = Electronic Keypad lock
SWC242464	26.5"D x 24"W x 64.75"H	Single				† DL = Intermediate Chamber Door Lock (triple chamber units)
SWC183064	20.5"D x 30"W x 64.75"H	Single				†† LDL = Lower Chamber Door Lock (dual/triple chamber units)
SWC243064	26.5"D x 30"W x 64.75"H	Single				
SWC182474	20.5"D x 24"W x 74.5"H	Single				
SWC183074	20.5"D x 30"W x 74.5"H	Single				
SWC242474	26.5"D x 24"W x 74.5"H	Single				
SWC243074	26.5"D x 30"W x 74.5"H	Single				
DWC182464T*	20.5"D x 24"W x 64.75"H	Dual				
DWC242464T*	26.5"D x 24"W x 64.75"H	Dual				
DWC183064T*	20.5"D x 30"W x 64.75"H	Dual				
DWC243064T*	26.5"D x 30"W x 64.75"H	Dual				
DWC182474T*	20.5"D x 24"W x 74.5"H	Dual				
DWC242474T*	26.5"D x 24"W x 74.5"H	Dual				
DWC183074T*	20.5"D x 30"W x 74.5"H	Dual				
DWC243074T*	26.5"D x 30"W x 74.5"H	Dual				
DWC182474E**	20.5"D x 24"W x 74.5"H	Dual				
DWC183074E**	20.5"D x 30"W x 74.5"H	Dual				
DWC242474E**	26.5"D x 24"W x 74.5"H	Dual				
DWC243074E**	26.5"D x 30"W x 74.5"H	Dual				
TWC183078	20.5"D x 30"W x 78.75"H	Triple				
TWC243078	26.5"D x 30"W x 78.75"H	Triple				

† Only available for Triple Chamber Unit
†† Only available for Dual and Triple Chamber Units

* = Chambers in Thirds



** = Equal Chambers



Roll Out Basket

Sloped Top

Interior Dimensions, Cubic Foot Capacity, Approximate Capacity

Model #	Upper or single Chamber (h x w x d) in inches	Middle Chamber (h x w x d) in inches	Lower Chamber (h x w x d) in inches	Cubic Foot Capacity Upper or single Chamber	Cubic Foot Capacity Middle Chamber	Cubic Foot Capacity Lower Chamber	Approximate Capacity (blankets or 1 Liter solution bottles)
SWC151822	14.0 x 14.0 x 11.63	n/a	n/a/	1.30	n/a	n/a	5 - 6 blankets, 8 bottles
SWC182424	15.25 x 20.0 x 17.0	n/a	n/a	3.0	n/a	n/a	9 blankets, 8 bottles
SWC242424	15.25 x 20.0 x 23.0	n/a	n/a	4.06	n/a	n/a	9 blankets, 12 bottles
SWC183024	15.25 x 26.0 x 17.0	n/a	n/a	3.9	n/a	n/a	18 blankets, 8 bottles
SWC243024	15,25 x 26.0 x 23.0	n/a	n/a	5.27	n/a	n/a	18 blankets, 20 bottles
SWC242436	36.0 x 20.0 x 23.0	n/a	n/a	6.7	n/a	n/a	16 blankets, 25 bottles
SWC182436	25.0 x 20.0 x 17.0	n/a	n/a	5.0	n/a	n/a	16 blankets, 20 bottles
SWC183036	25.0 x 26.0 x17.0	n/a	n/a	6.39	n/a	n/a	32 blankets, 36 bottles
SWC243036	25.0 x 26.0 x 23.0	n/a	n/a	8.65	n/a	n/a	32 blankets, 40 bottles
SWC182464	49.5 x 20.0 x 17.0	n/a	n/a	9.74	n/a	n/a	32 blankets, 48 bottles
SWC242464	51.0 x 20.0 x 23.0	n/a	n/a	13.60	n/a	n/a	80 blankets, 120 bottles
SWC183064	51.0 x 26.0 x 17.0	n/a	n/a	13.05	n/a	n/a	66 blankets, 72 bottles
SWC243064	51.0 x 26.0 x 23.0	n/a	n/a	17.65	n/a	n/a	80 blankets, 120 bottles
SWC182474	61.0 x 20.0 x 17.0	n/a	n/a	12.00	n/a	n/a	32 blankets, 60 bottles
SWC183074	61.0 x 26.0 x 17.0	n/a	n/a	15.60	n/a	n/a	80 blankets, 72 bottles
SWC242474	61.0 x 20.0 x 23.0	n/a	n/a	16.24	n/a	n/a	80 blankets, 120 bottles
SWC243074	61.0 x 26.0 x 23.0	n/a	n/a	21.1	n/a	n/a	80 blankets, 120 bottles
DWC182464T*	13.5 x 20.0 x 17.0	n/a	24.5 x 20.0 x 17.0	2.65	n/a	4.82	26 blankets, 36 bottles
DWC242464T*	13.5 x 20.0 x 23.0	n/a	24.5 x 20.0 x 23.0	3.59	n/a	6.52	52 blankets, 80 bottles
DWC183064T*	13.5 x 26.0 x 17.0	n/a	24.5 x 26.0 x17.0	3.45	n/a	6.27	50 blankets, 54 bottles
DWC243064T*	13.5 x 26.0 x 23.0	n/a	24.5 x 26.0 x 23.0	4.67	n/a	8.48	52 blankets, 96 bottles
DWC182474T*	15.25 x 20.0 x 17.0	n/a	34.5 x 20.0 x 17.0	2.65	n/a	6.79	32 blankets, 48 bottles
DWC242474T*	15.25 x 20.0 x 23.0	n/a	34.5 x 20.0 x 23.0	4.06	n/a	9.18	52 blankets, 80 bottles
DWC183074T*	15.25 x 26.0 x 17.0	n/a	34.5 x 26.0 x 17.0	3.45	n/a	8.82	52 blankets, 72 bottles
DWC243074T*	15.25 x 26.0 x 23.0	n/a	34.5 x 26.0 x 23.0	5.28	n/a	11.93	52 blankets, 120 bottles
DWC182474E**	25.0 x 20.0 x 17.0	n/a	26.0 x 20.0 x 17.0	4.97	n/a	5.24	44 blankets, 48 bottles
DWC183074E**	25.0 x 26.0 x 17.0	n/a	26.0 x 26.0 x 17.0	6.39	n/a	6.65	64 blankets, 72 bottles
DWC242474E**	25.0 x 20.0 x 23.0	n/a	26.0 x 20.0 x 23.0	6.65	n/a	6.99	64 blankets, 80 bottles
DWC243074E**	25.0 x 26.0 x 23.0	n/a	26.0 x 26.0 x 23.0	8.65	n/a	8.99	64 blankets, 120 bottles
TWC183078	11.25 x 26.0 x 17.0	10.75 x 26.0 x 17.0	18.5 x 26.0 x 17	2.88	2.75	4.73	62 blankets, 54 bottles
TWC243078	11.25 x 26.0 x 23.0	10.75 x 26.0 x 23.0	18.5 x 26.0 x 23.0	3.89	3.72	6.4	62 blankets, 90 bottles

Usable Chamber Space

The usable chamber space of the single, dual and triple cabinets is slightly different from the height, width, and depth interior dimensions in the table on the previous page.

Note that the usable chamber inner height is measured from the bottom of the air box to the bottom of the chamber.

(In these views, the doors were removed for clarity.)

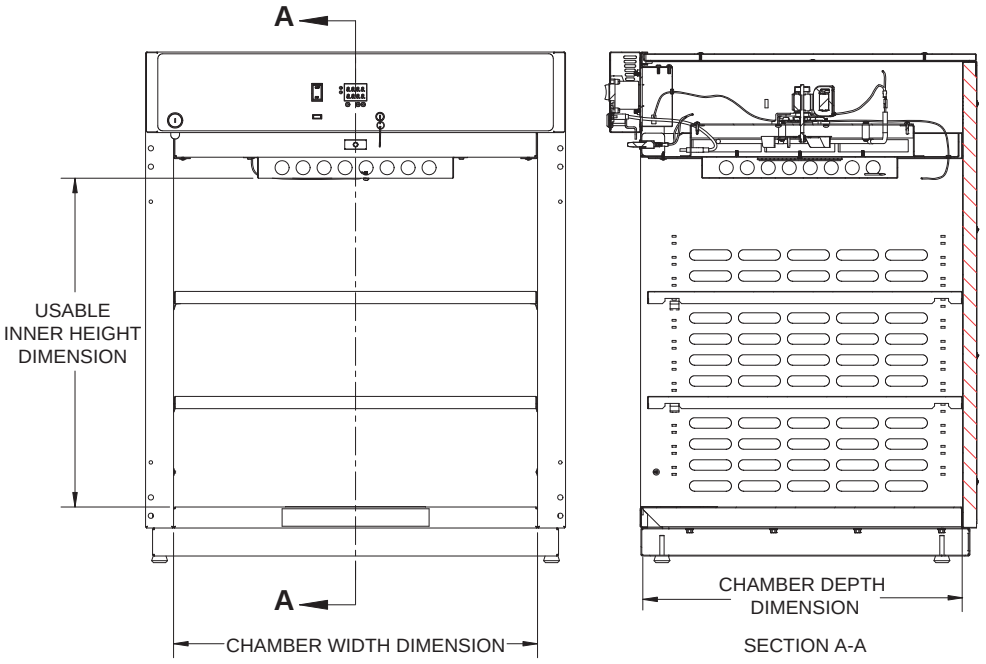


Fig. 1: Single Chamber Unit Usable Space

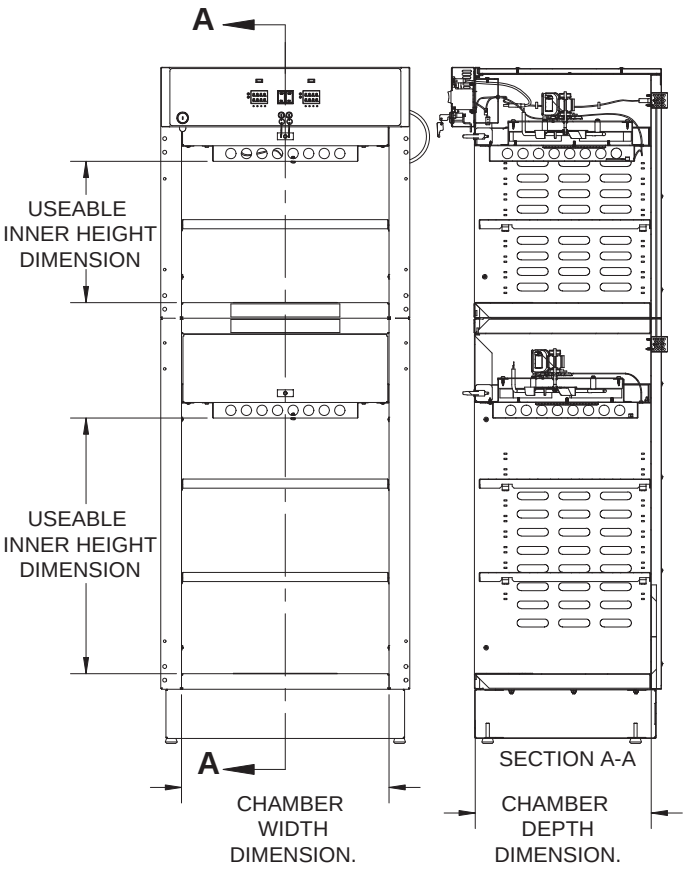


Fig. 2: Dual Chamber Unit Usable Space

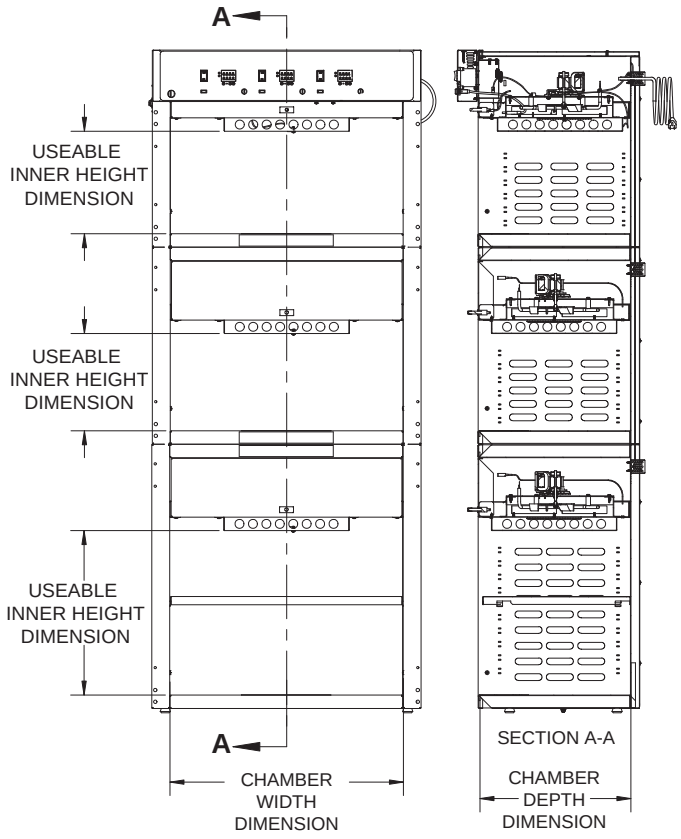


Fig. 3: Triple Chamber Unit Usable Space

General Specifications

Cabinet Construction and Material

- 300 Stainless Steel (all panels, header and doors) Double walled construction with insulation. Doors are double pan stainless steel.
- Fully insulated to provide uniform heating
- Optional Glass door are double paned tempered glass framed with aluminum.
- Doors are fully gasketed and hinged on right side or optionally on the left side.

Factory Presets

- All units are preset to measure temperature in Fahrenheit (unless the unit was specifically ordered to be preset for Celsius.)

Power Requirements

- 120VAC, 60Hz, Single Phase, 15 AMP, Ground Fault Interrupter Circuit (GFIC) protected electrical outlet, or 220 VAC, 60Hz, Single Phase, 7 AMP, GFIC protected electrical outlet (by others) installed per local building codes and provides protective grounding.
- Cabinets are supplied with a 7 foot (2.3m) long, 14-3 SJT power cord with a 120V (NEMA 15P) hospital grade plug. For multi-chambered units, ON/OFF switches are supplied for each chamber.
- All individual electronic components are Underwriter's Laboratory (UL) approved and recognized.

Power Specifications are located on the unit identification rating tag (see Fig. 4) which is permanently attached on the inside of the door or on the back of the upper chamber.

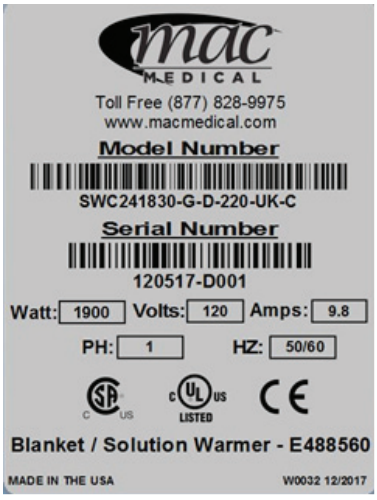


Fig. 4: Power Specification Label

Electrical Specifications by Model	
Model #	**Description**
SWC151822	120V, 2.08 Amp, 50/60Hz, .25 kWh (Avg.), 853 BTU/hr (Avg.)
SWC182424	120V, 2.9 Amp, 50/60 Hz, .23 kWh (Avg.), 785 BTU/hr (Avg.)
SWC182436	
SWC242424	120V, 6.3 Amp, 50/60 Hz, .45 kWh (Avg.), 1535 BTU/hr (Avg.)
SWC242436	
SWC243024	
SWC243036	
SWC183024	120V, 5.7 Amp, 50/60 Hz, .45 kWh (Avg.), 1535 BTU/hr (Avg.)
SWC183036	
SWC182464	120V, 6.5 Amp, 50/60 Hz, .47 kWh (Avg.), 1604 BTU/hr (Avg.)
SWC182474	
SWC183074	
SWC242474	
SWC243074	
SWC242464	120V, 6.5 Amp, 50/60 Hz, .41 kWh (Avg.), 1604 BTU/hr (Avg.)
SWC243064	
SWC183064	120V, 6.3 Amp, 50/60 Hz, .41 kWh (Avg.), 1400 BTU/hr (Avg.)
DWC183064T	120V, 8.3 Amp, 50/60 Hz, .60 kWh (Avg.), 2047 BTU/hr (Avg.)
DWC242464T	
DWC182464T	120V, 8.9 Amp, 50/60 Hz, .65 kWh (Avg.), 2218 BTU/hr (Avg.)
DWC182474E	
DWC182474T	
DWC243064T	
DWC242474E	
DWC242474T	
DWC183074T	120V, 8.3 Amp, 50/60 Hz, .82 kWh (Avg.), 2047 BTU/hr (Avg.)
DWC243074T	120V, 12.5 Amp, 50/60 Hz, .90 kWh (Avg.), 3071 BTU/hr (Avg.)
DWC183074E	120V, 11.4 Amp, 50/60 Hz, .82 kWh (Avg.), 2798 BTU/hr (Avg.)
DWC243074E	120V, 12.9 Amp, 50/60 Hz, .90 kWh (Avg.), 3071 BTU/hr (Avg.)
TWC183078	
TWC243078	

Main Features of a Typical Warming Cabinet

(Single Chamber Cabinet shown here)

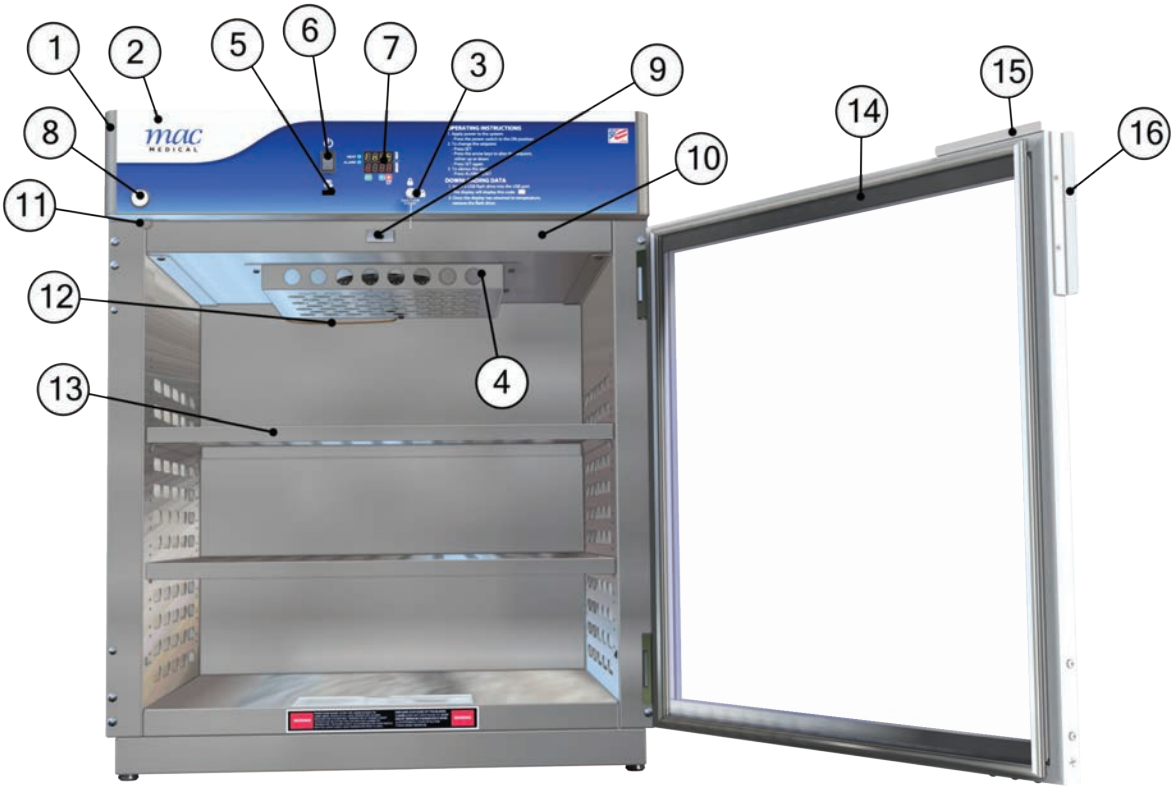


Fig. 5: Main Elements of a Warming Cabinet

This list shows the main elements of a warming cabinet. For a list of replacement parts with their part numbers and quantities, see"Replacement Parts - General" on page 24 and "Replacement Parts - Header Assembly and Electrical Drawer" on page 25.

Item #	Description	Qty
1	Header Assembly (24" and 30")	1
2	Overlay (24" and 30") D-Series	1
3	Key Housing	1 per chamber
4	Air Box	
5	USB cable plug	
6	On/Off Switch	
7	Display Board -Data (1 for each chamber)	
8	Key Lock	
9	Door Switch	
10	Drawer Assembly (1 for each chamber)	
11	Cam Lock Latch	1 per door
12	Probe J Type Thermocouple	1 per chamber
13	Adjustable Perforated Shelf	As Required
14	Door (glass or steel)	As Required
15	Cam Lock Plate	1 per door
16	Handle	1 per door

Warnings and Cautions

The following is a list identifying the various warning and caution icon used in this manual.

Icon Type	Icon	Description
Warnings		(Red triangle with an exclamation point) indicates the potential for minor to severe injuries up to and including death to personnel.
Cautions		(Yellow triangle with an exclamation point) indicates the potential minor injury to personnel and damage to equipment. Note: The exclamation point will not be visible where only equipment damage is present.
Burn Hazard Warnings		(Yellow triangle with radiating lines) indicates a potential burn injury to personnel.
Electrical Warnings		(Yellow triangle with a lightning bolt) indicates a possible shock hazard is present. Severe shock hazards shall be a lightning bolt in a red triangle.
Explosion Hazard		(Yellow triangle with the explosion icon) indicates the equipment should not be operated in areas where explosions could occur.
Fire Hazard		(Yellow triangle with the fire icon) indicates the warning cabinet should not be loaded with materials or liquids that are flammable or use in the presence of flammable anesthetics or solvents.

The following is a list of safety precautions that must be observed when operating this equipment.

Warning - Injury Hazard

REPAIRS AND ADJUSTMENTS should be attempted only by experienced service representatives. Use of unqualified persons to work on this equipment could result in personal injury or costly damage.

Warning - Burn Hazard

- Do NOT use in the presence of flammable anesthetics.
- Do NOT heat liquids in the presence of flammable solvents.
- Failure to observe this Warning can result in severe personal injury and even death.

Warning - Burn Hazard

- Do NOT exceed 150° F (65.56 C) for non-vented closures; (screw caps, crimp seals, plastic pouches, etc.). Do not exceed pre-sterile solution manufacturer's temperature requirements.
- Do NOT raise set temperature to increase rate of heating. Allow approximately 4-6 hours for solutions to reach desired temperatures.

- Do NOT use liquids on or inject into living tissue, unless actual liquid temperature has been measured and is acceptable. Temperature of the warming cabinet's contents may be hotter than the displayed air temperature. For patient safety, in accordance with good medical practice, always check liquid temperature prior to using.

Warning - Electric Shock Hazard

Do NOT remove control tray. Contact a qualified service representative. Some of the troubleshooting procedures can require access to live electrical circuitry. Dangerous accidental contact with line voltage is possible. Only qualified service personnel should be allowed to perform these procedures.

Warning - Explosion Hazard or Fire Hazard

- Do not warm flammable materials or liquids.
- Do Not use in the presence of flammable anesthetics.
- Do Not heat liquids in the presence of flammable solvents.

Caution - Possible Equipment Damage

Some items are not acceptable in these warming cabinets. If in doubt as to whether an item can be safely processed, have the facility supervisor contact the manufacturer of the item.

Caution: Repairs And Adjustments should only be attempted by experienced service personnel who are fully acquainted with this equipment. Use of unqualified or inexperienced personnel to work on the equipment, or the installation of unauthorized parts, could result in serious personal injury, or result in costly damage. Always unplug power cord from power source before attempting any repairs or servicing of this equipment.

Special User Attention

Prior to use, all personnel who will operate the Warming Cabinet must be instructed in the correct usage and operation. All personnel who will use the Warming Cabinet should be aware that sensible care must be exercised to maintain patient safety and to keep the Warming Cabinet performing at peak efficiency.

Intended Use Notice

This product is intended to be used by medical personnel for the purpose of providing heated storage of blankets, sterile water and saline solutions used in the care of patients in surgery, recovery, OB/GYN, ICU, ER and trauma areas in healthcare facilities where al operators are instructed on the usage, limitations and hazards. No other use is authorized or recommended.

This product is to be used strictly for the purpose for which it was designed. Using this product in a manner not specified by MAC Medical, Inc. can void the protection provided by the equipment manufacturer. MAC Medical, Inc. disclaims all liability for the consequences of this product being used for other than what it was designed for. Product modification or misuse can be dangerous. MAC Medical, Inc. disclaims all liability for the consequences of product alterations or modifications, as well as for the consequence that can result from the combination of this product with other products, whether supplied by MAC Medical, Inc. or by other manufacturers, unless such a combination has been specifically endorsed, in writing, by MAC Medical, Inc.

Unpacking Instructions

Receiving Requirements

The customer is responsible for making sure the loading dock at their facility can accommodate a shipping carton approximately 70" inches (1.778 m) long and 40" (1.016m) inches wide.

The customer must also provide transportation equipment (forklift, etc) for a carton weighing approximately 500 lbs (227 kg).

Inspection

1. Receiving area must meet all State and Local regulations prior to unpacking.
2. Customer must inspect carton both before and after unpacking to determine if any items were damaged during shipping.
   A. All damaged items must be listed on the Bill of Lading.
   B. The serial number and model number shown on the carton label must match the numbers on the Bill of Lading and the Invoice.
3. Customer is responsible for the proper disposal of all packing materials. The disposal of these items must meet all State and Local regulations.

Unpacking the Warming Cabinet

Retain all shipping materials until warming cabinet is completely unpacked and inspected for damage.

1. Remove metal bands holding the bottom and top of the shipping carton together.
2. Remove all metal staples holding the top and bottom of the carton to its sides.
3. Remove the top of the carton.
4. Remove metal staples making the flaps around the top edge of the carton.
5. Remove metal staples attaching the sides of the carton to the bottom of the carton.
6. Remove the sides of the carton by lifting them straight up from the bottom tray.
7. Lift Warmer straight up from bottom tray of the shipping carton and remove it.
8. Remove all protective packing material.
   A. ***Caution:*** DO NOT use a box cutter or any other cutting utensil to remove the plastic protective wrapping around the Warming Cabinet. These items can scratch the protective coating on the stainless steel allowing the surface to rust.
9. The Warming Cabinet is now ready for use.
10. Discard shipping and packing materials in compliance with local and state regulations.
11. Warmers, when not in use, must NOT be double-stacked while in storage. Warmers, while still in shipping cartons, must not be double-stacked when not in use.

Fig. 6: Warming Cabinet in Shipping Container

Installing D-Series Warming Cabinets

Environmental Conditions

This unit is intended for use in a stable ambient environment, with an ideal temperature of 72° F (22.22° C) or less. The unit should never be used directly next to any appliance that may produce heat, such as an autoclave.

During Transport and Storage (in original packaging materials) -

- Ambient Temperature: -40° - 159°F (-40° - 70°C)
- Relative Air Pressure: 10% - 100%, including condensation
- Air Pressure: 500 hPa (14 inHg - 31.3 inHg)

During Use - for Dry Locations

- Ambient Temperature: 60° - 85°F (15° - 30°C)
- Relative Air Moisture: 30% - 60% non-condensing
- Air Pressure: 700 hPa - 1060 hPa (20.7 inHg - 31.3 inHg)

Installation

Before starting the installation, review the local electric codes including the Occupational Health and Safety Act for any requirements pertaining to the proper installation of this equipment.

Contact your MAC Medical representative for seismic calculations and tie-down hardware, if applicable.

1. Carefully uncrate the D-Series Warming Cabinet.
2. Inspect for any damage. If there is damage, please contact MAC Medical, Inc. at (1-877-828-9975).
3. Check your 120V, 60 Hz, Single Phase 15 AMP GFIC Protected electrical outlet or 220V, 60 Hz, Single Phase, 7 AMP GFIC Protected electrical outlet. Be sure the outlet is safely accessible and in proper working condition.
4. Plug the 3-prong electrical plug into the 120VAC, 60Hz, 15 AMP, GFIC Protected Outlet or a 220 VAC, 60Hz, Single Phase, 7 AMP GFIC protected electrical outlet. Make sure the electrical outlet is safely accessible and in proper working condition.
5. Place Warming Cabinet on a solid, level platform where external movement will not interfere with loose contents used by the warmer.
6. Make sure the shelving is correctly located as desired and level. If not, adjust their height (see "Adjusting the Shelves" on page 18).
7. Before use, remove any items that have been stored in the cabinet.

Testing before Using

All warming cabinets have been calibrated and tested before leaving the factory. There is no need for the user to do additional testing after installation prior to use.

After six month of use, it is recommended that the user test the warming cabinet for temperature accuracy. See "Semi-Annual Checklist" on page 23.

Installing Warming Cabinet Leg Levelers

Warming Cabinets are shipped with 4 Leg Levelers which must installed by the customer (Fig. 7).

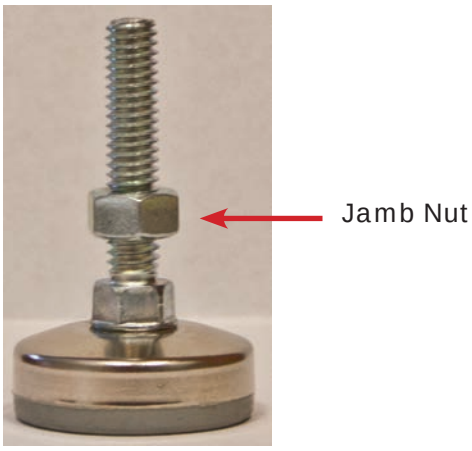


Fig. 7: Leg Leveller

The Warming Cabinet base has 4 holes into which the Leg Levelers can be installed (Fig. 8).

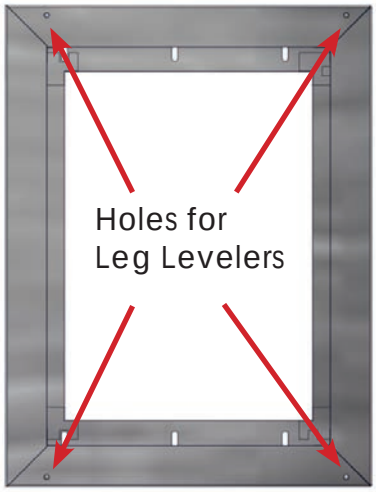


Fig. 8: Holes in Cabinet base

Working with at least two people, carefully tilt the Warming Cabinet back slightly and insert the 4 Leg Levelers up into the 4 provided holes (Fig. 9).
IMPORTANT: The Jamb Nut must go on the outside of the Cabinet Base, not the inside. Fig.10 shows a Leg Leveler correctly installed with the Jamb Nut outside the base. Fig. 11 shows the Leg Leveler incorrectly installed with the Jamb Nut inside the base.

Fig. 9: Insert Leg Leveller into Base

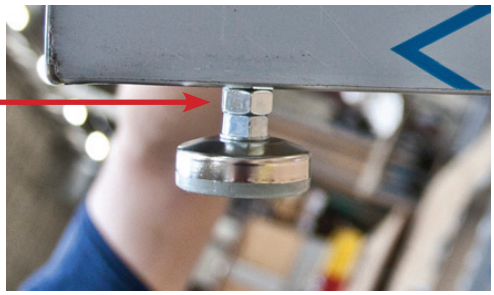


Fig. 10: Leg Leveller - Correct Installation

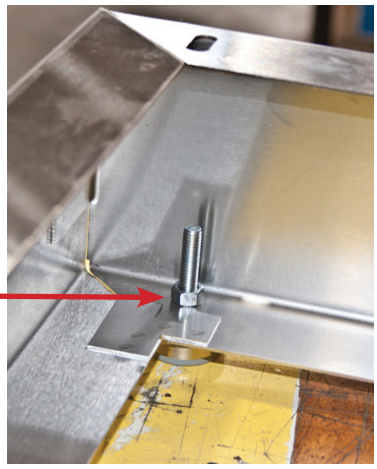


Fig. 11: Leg Leveller - Incorrect Installation

Optional Direct Wiring Using Facility Power Supply

⚠NOTE: The following procedure must be performed by a qualified electrical technician to avoid personal injury or damage to the unit.

Warming Cabinets can be wired directly into the facility's wiring by following these steps:

1. Remove four 8 X 1-5/8" self tapping screws and lift off the Top Outer Panel. See Fig. 7.
2. Remove two 8 X 1/2" self tapping screws and lift off the Top Inner Panel. See Fig. 7.
3. Loosen the 3/8" straight-thru connector (See Figure 4, Item 1) and disconnect wiring from terminal board (Figure 4, Item 5) and from Fig. 8, Items 2, 3, 4.
4. Remove existing power cable (See Figure 4, Items 2, 3, and 4) from terminal block and pull out of Warming Cabinet through 3/8" connector (See Fig. 8, Item 1).
5. Feed facility wiring cable back through the 3/8" connector (See Fig. 8, Item 1) in the back of the cabinet and wire onto terminal board as shown in Fig. 8. Tighten the 3/8" to securely hold the facility wiring in place.
6. On the terminal board, The green wire (Item 4) connects with the green ground wire.
7. The white wire (Item 3) connects opposite with the white wire, or neutral wire, on the terminal board.
8. The black wire (Item 2) connects opposite of the black or positive wire on the terminal board.
9. Re-install the Inside Top Panel using two 8 X 1/2" self-tapping screws. See Fig. 7.
10. Re-install the Outside Top Panel using four 8 X 1-5/8" self-tapping screws. See Fig. 7.
11. Carefully slide the unit into its permanent location.

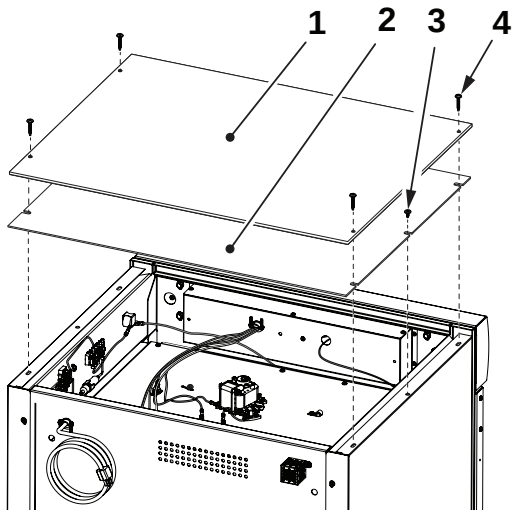


Fig. 12: Remove Top Covers

Item	P/N	Description	Qty
1	SMW0027	Outside Top Panel	1
2	SMW0028	Inside Top Panel	1
3	H0012-01	Screw, Self-Tapping, 8 X 1/2"	2
4	H0012-02	Screw, Self-Tapping, 8 X 1-5/8"	4

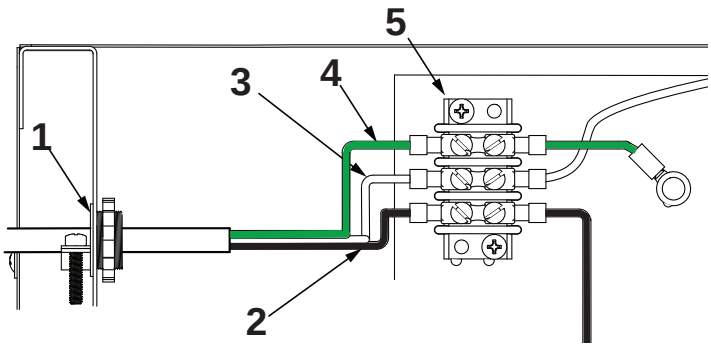


Fig. 13: Unwiring Terminal Block

Item	P/N	Description	Qty
1	W0140	Connector, Straight, 3/8"	1
2	W0077	Wire, Black, Positive	1
3	W0077	Wire, White, Neutral	1
4	W0077	Wire, Green, Ground	1
5	W0005	Terminal Strip, 3-Position	1

Basic Operation

This cabinet has been designed to heat:

- Liquids in vented containers.
- Liquids in non-vented containers to a temperature of 150° F maximum (65.6°).
- Metal objects
- Muslin or 100% cotton sheets and wool blankets.
- Glass containers must be annealed borosilicate glass (Pyrex type).
- Only plastic containers rated ***Thermal*** and capable of withstanding temperatures in excess of 300° F (149° C)

⚠ *DO NOT WARM -*

- Synthetic blend fabrics
- Flammable liquids
- Items containing non-thermal plastic, rubber, metal snaps, studs, hooks, etc.

Recommended Settings

MAC Medial, Inc. does not recommend chamber set points for any items that are to be warmed. For appropriate heating temperatures, please contact the item manufacturers. For more information, please contact MAC Medical, Inc.

For blankets, follow blanket manufacturer's instructions for the set point.

For intravenous and irrigation fluids, follow temperature guidelines printed on the container or contact your supplier for temperature and expiration periods.

Loading Contents in Cabinet

Load contents into the chamber with a minimum of 1 inch of space between all walls and fan to allow for evenly distributed circulation (as seen here).

Allow 1" of spacing between fluid containers for evenly distributed heating (Fig. 9). Avoid stacking fluid bags as this increases the heating time required to achieve set temperatures.

Blankets must be folded and stacked to allow a one inch minimum space from the sides, back and top of the compartment or the shelf above. Do not let blanket protrude past the front edge of the shelf.

DO NOT OVERLOAD.

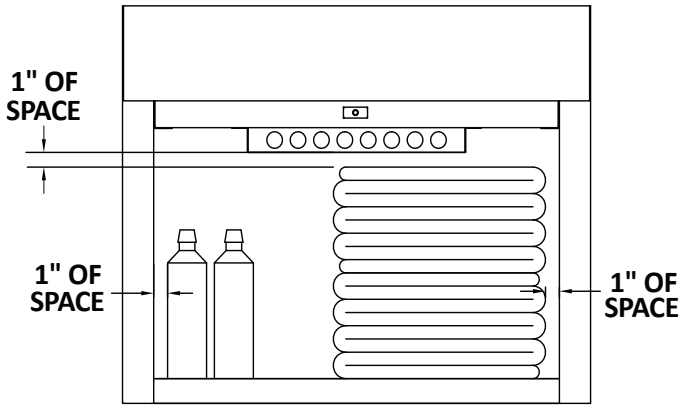


Fig. 14: Content Spacing

Once a set temperature is selected and obtained it will be controlled throughout the operations within ± 1°F to 3°F (-1.7°C to -1.6°C) of the selected temperature.

From a cold start, each compartment's loaded contents will be evenly heated to a set point within 2 to 6 hours (depending on the load). In the event of power loss, the warmer will resume normal function once power is restored.

For multi-chambered units, each chamber can be loaded with different goods and set at different temperature settings.

In Case of Power Failure

In case of power failure, the unit will resume normal operation when power is restored.

Follow the fluid manufacturer's guidelines for unused solutions that have cooled or have been removed from heated storage.

Explanation of the Controls

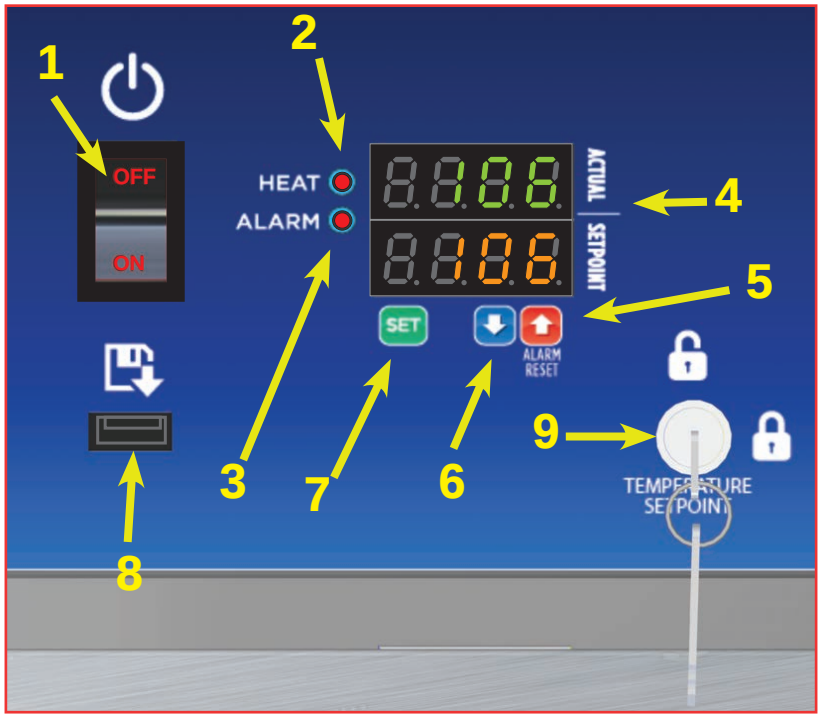


Fig. 15: Controller Display

The Controls are located on the upper panel (Fig. 10) on the front of the cabinet. For multi-chamber cabinets, there are sets of controls for each individual chamber. Each control set is clearly labeled UPPER CHAMBER and LOWER CHAMBER for dual chamber cabinets and UPPER CHAMBER, MIDDLE CHAMBER and LOWER CHAMBER for the triple chamber cabinets.

Item	Control Components	Function
1	ON/OFF Switch/ Circuit Breaker	Provides power to the warming compartment and control
2	HEAT light	Visual indicator that the heating system is active
3	ALARM light	Visual indicator of an overheat condition
4	Display Panel	Shows the current chamber temperature (Actual) and the Setpoint temperature in Fahrenheit (F) or Celsius (C). The upper readout row indicates what mode will be defined/ changed (i.e. top/bottom chamber, date, etc). It also continually indicates the actual temperature. The lower readout row indicates the settings for the mode. It also continually indicates the setting temperature. The display also provides Loss of Power and Overheat (Alarm). The overheat alarm is an audble and visual display “HI”. Numbers/letters are entered in reverse order, working from right to left across the controller.
5	UP arrow	Adjusts the setpoint of the chamber and silence the audible overheat alarm.
6	DOWN arrow	Adjust the setpoint of the chamber
7	SET buttom	Press to change the setpoint temperature. Press again to save a setpoint temperature. SET is also used to move to the next setting parameter/mode
8	DATA port	USB port used to retrieve temperature values for a set period of time.
9	Key Switch	Used to lock out any changes to the control, such as adjusting the setpoint temperature.

Operation of Display Panel

Start

Press the power switch to the "ON" position. (For multi-chamber units, each chamber has its own power switch). The upper readout display will show the actual chamber temperature.

Set Processing Temperature

1. Press "SET" and release.
2. Press the UP ▲ arrow key up (to raise the setpoint) or the down ▼ arrow key (to lower the setpoint). The setpoint is indicated in the lower row of the display.
3. Press "SET" again to complete the change (If dual or triple chamber unit, steps must be completed for all chambers). The setpoint temperature will change and the last digit will flash.
4. To prevent adjustment to the setpoint temperature, the control may be locked with the Key Switch (see #9, Fig. 10)

NOTE: See the Maximum/Minimum Limits Temperature Set Points table below for various warming cabinets and chambers.

NOTE: The temperature setting may be changed at any time. However, if the setpoint is changed more than 10° below the actual temperature, the HI temperature alarm will activate.

If alarm is activated and the control panel reads "HI", complete the following steps:

1. Press "ALARM RESET" (UP ▲ arrow) until the alarm stops.
2. Open door(s) to release heated air.
3. If the display reads "HI" and alarm remains, open door(s) and allow more cooling time.

NOTE: If the alarm is activated under normal operating conditions, turn power to specific chamber off and call your Mac Medical representative at 1-877-828-9975.

Caution ***Burn Hazard:*** DO NOT raise the setpoint temperature to increase the rate of heating. This could overheat the contents leading to possible patient burns.

Warning ***Explosion Hazard:*** DO NOT exceed 150° for non-vented closures (screw caps, crimp seals, plastic pouches, etc. DO NOT exceed pre-sterile solution manufacturer's temperature requirements.

Minimum/Maximum Limits Temperature Set Points and Temperature Tolerances on Warming Cabinet Units

Warmer Cabinet Model	Minimum Temperature Set Point	Maximum Temperature Set Point	Blankets	Irrigation Fluids	Injection Fluids	Temperature Tolerance
SWC151822	90°F (32°C)	135°F (57°C)	30°C to 71°C (86°F to 160°F)	30°C to 66°C (86°F to 150°F)	30°C to 40°C (86°F to 104°F)	±1°F
Single chamber units SWC182424, SWC182436, SWC183024, SWC182464, SWC242436, SWC243024, SWC242424		160°F (71°C)				±1°F
Single chamber units SWC183036, SWC243036						±2°F
Single chamber units SWC182474, SWC183064, SWC183074, SWC242464, SWC242474, SWC243064, SWC243074						±3°F
Dual Chamber units (Upper Chamber) DWC182464T, DWC183064T, DWC182474T, DWC183074T, DWC242474T, DWC243074T						±1°F
Dual Chamber units (Upper Chamber) DWC182474E, DWC183064T, DWC183074E, DWC242464T, DWC242474E, DWC243064T, DWC243074E						±2°F
Dual Chamber units (Lower Chamber) DWC182464T, DWC182474E, DWC183064T, DWC182474T, DWC183074T, DWC183074E, DWC242464T, DWC242474E, DWC243064T, DWC243074E						±2°F
Dual Chamber units (Lower Chamber) DWC242474T, DWC243074T						±3°F
Triple chamber models		110°F (43°C) top chamber				±1°F
		135°F (57°C) middle chamber				±1°F
		160°F (71°C) bottom chamber				±1°F

Installing the Shelves

1. Where applicable, turn the power OFF to the heating chamber that needs a shelf installed in it.
   A. Allow the heating chamber to cool. Then unload any contents.
2. Install the 4 shelf support clips into the desired location by inserting the top tab into the upper wall slot of that position (Fig. 12 & Fig. 13). Push up slightly on the inserted top tab and push the bottom half of the clip in until the bottom tab snaps into the lower slot.
3. Count the mounting locations at each corner of the chamber to be sure that the shelf will be level and install the remaining support clips.
4. Install the shelf with the notches on the bottom of the shelf aligned with the shelf supports (Fig. 13 & Fig. 14).
5. Pull outward on the shelf to insure it is locked properly on the supports.

Adjusting the Shelves

1. Turn the power OFF to the heating chamber that needs its shelf adjusted.
   A. Allow the chamber to cool. Then unload the contents.
2. Remove the shelf and determine its new position.
3. Remove the four (4 per shelf) shelf supports clips by tilting the clip upwards and lifting out.
4. Install the shelf support into the new location by inserting the top tab into the upper slot of the new position. Push up slightly on the inserted top tab and push the bottom half of the clip in until the bottom tab snaps into the lower slot..
5. Count the mounting locations at each corner of the chamber to be sure that the shelf will be level and install the remaining supports.
6. Re-install the shelf with the notches on the bottom of the shelf aligned with the shelf supports.
7. Pull outward on the shelf to insure it is locked properly on the supports.

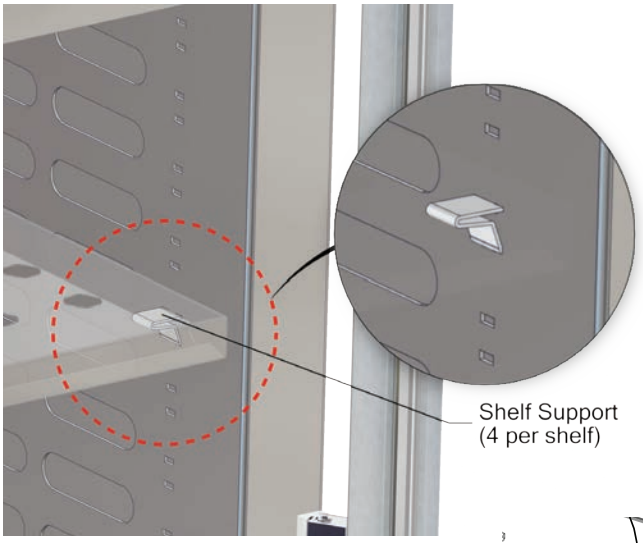


Fig. 16: Shelf Support

Fig. 17: Shelf Support showing tabs

NOTE: Shelves are notched at each corner to rest on 4 shelf support clips that are inserted into the cabinet wall slots (Figure 14).

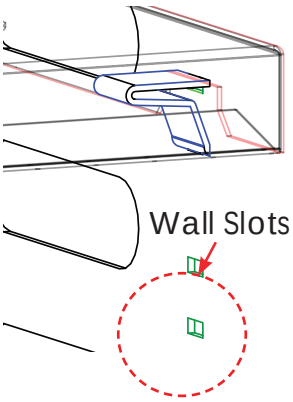


Fig. 18: Support Clip Fitted in Notch

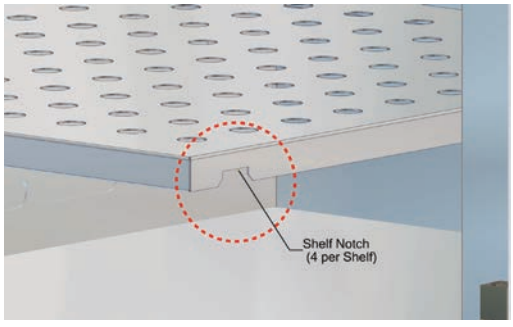


Fig. 19: Shelf Notch

Installing and Adjusting Optional Roller Basket Shelves

Install the roller basket shelf by first attaching the two roller channels to the cabinet walls.

1. First, insert the top tab of one end of the roller channel into a slot (the roller channel width spans 4 slots). Fig. 15 & Fig. 16.
2. After inserting the top tab , push up slightly on it while snapping in the bottom tab into a slot located 3 slots below the top slot. (Fig. 17)
3. Snap in the other end (make sure it is level with the first end) and attach the other roller channel to the opposite side in the same manner. Be sure both channels are level with each other.
4. Set the 2 sets of rollers of the roller basket into the channel tracks on both sides and slide the shelf in (Fig. 18 - Fig. 19).

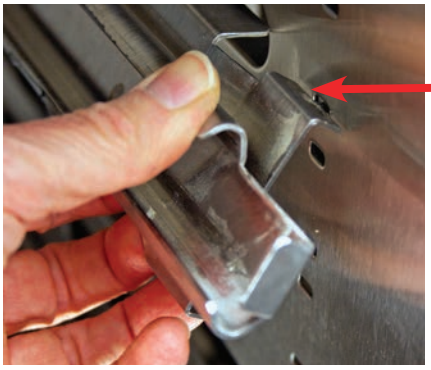


Fig. 20: Inserting Top Channel Tab

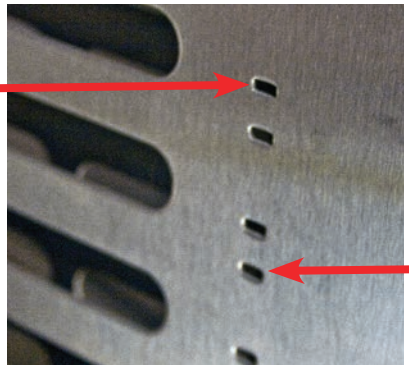


Fig. 21: Cabinet Wall Slots

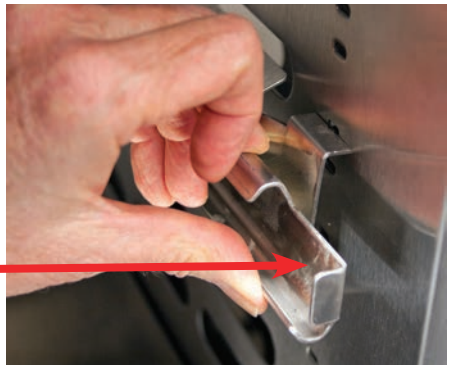


Fig. 22: Inserting Bottom Channel Tab

Fig. 23: Rollers in Channel Track

Fig. 24: Roller Basket Shelf Installed

Adjust the Roller Basket Shelf

1. To adjust the roller basket shelf, slide the shelf out and lift up to clear the rollers from the roller channel track. Set the shelf aside.
2. Remove the roller channels by pushing up slightly on the top tab of the channel and pull out the channel from the bottom.
3. Re-install the roller channels in another location using the same installation process described above.
4. After re-installing the roller channels, re-install the shelf by aligning its rollers in the roller channel track and sliding the shelf in.

Note: For information on basket dimensions and part numbers pertaining to warmer cabinet models, see page 26.

Unloading the Warming Cabinet

Caution ⚠ ***Injury and Burn Hazard:*** Avoid injury by using proper personal protective equipment when loading or unloading the Warming Cabinet. Internal surfaces are hot, glass may shatter when cooled suddenly and solution bags or bottles may burst when picked up. Rotate warmed contents on a first-in, first-out basis. Failure to do so may present cold or discolored contents.

Warning ⚠ ***Injury or Burn Hazard:*** **DO NOT** use heated liquids on, or inject in, living tissue unless actual liquid temperature has been measure and found acceptable. The temperature of the Warming Cabinet contents may be hotter than the displayed temperature. For patient safety (in accordance with optimal medical practice), always verify liquid temperature with a themometer at the point of use.

Important: See Maximum Warming Temperature Limit for Patient Safety table below

Maximum Warming Temperature Limit for Patient Safety (as recommended by ECRI)	
Items to be Warmed	**Maximum Temperature Limit**
Liquid Solutions for use on living tissue	110°F (43°C)
Blankets	130° (54°C)

Retrieval of Recorded Temperatures

AORN recommends the cabinet temperature should be routinely monitored and documented on a temperature log or on a record provided by an electronic recording system, according to facility policy.

All MAC Medical D-series warming cabinets are equipped with a temperature monitoring program that stores actual chamber temperatures in 30 minute intervals. The information recorded may be down loaded to a USB flash drive at any time. To retrieve the stored data:

1. Insert the MAC Medical flash drive (W0600-S) or equivalent into the USB port marked DATA (located on the front face of the control panel). For multi-chambered units, insert a flash drive into the USB port marked DATA for each chamber.
2. The digital display will change from displaying the actual temperature to displaying the code shown in Fig. 20.

Fig. 25: Data Download Code

3. Once the transfer is complete, the digital display will show the temperature again.
4. Remove the flash drive. The data is saved on the flash drive as a .CSV file for import into most Windows-based spreadsheet programs. The example below shows the Fahrenheit temperature variation within a certain date and time period as shown in Fig. 21.

42	01/06/2016 06:32:54	106 F
43	01/06/2016 06:32:30	106 F
44	01/06/2016 07:02:30	106 F
45	01/06/2016 07:32:30	114 F
46	01/06/2016 08:02:30	160 F
47	01/06/2016 08:32:30	160 F
48	01/06/2016 09:02:30	160 F

Fig. 26: **Data Extracted**

Turning Off the Warming Cabinet

Switch the ON/OFF Switch to the OFF position for each chamber to be shut down.

Troubleshooting

The following alert messages and operating conditions will occur when the warming cabinet is operating outside of acceptable conditions.

Troubleshooting Guide	
Alerts & Description	**Action Required**
HI with audible alarm	Cabinet temperature is 10°F (or 5°C) higher than setpoint. Silence the alarm by pressing ALARM RESET (Up ▲ arrow) and open door(s) to allow the chamber(s) to cool.
LLLL	Input temperature is lower than input range. Check temperature probe and connections. See below for additional troubleshooting.
HHHH with audible alarm	Input temperature is higher than input range. Check temperature probe and connections. See below for additional troubleshooting.
OPEn with audible alarm	Temperature probe is at fault. Check connection, then replace and calibrate.
JIC continuous or flashing	Control failure. Check connection first, then replace and calibrate.
Unit will not power up	1. Check outlet for power 2. Check if warmer is plugged in 3. Check if the ON/OFF switch/circuit breaker is turned on 4. Check the fuse on the incoming supply 5. Check for power at the junction box in the control panel 6. Contact your MAC Medical authorized service representative
Chamber does not heat	1. Is the power turned on? 2. Is the temperature set above chamber ambient temperature? 3. Is the circulation fan operational? Open the door and press in on the door switch 4. Is there voltage on the output terminal of the controller? 5. Is the door(s) closed? 6. Contact your MAC Medical authorized service representative
Over temperature alarm ***HI*** is activated	7. Is the circulating fan operational? 8. Are the contents loaded properly? 9. Has the chamber set temperature been lowered? 10. Temperature of the lower chamber cannot be in excess of +30°F (+1.1°C) above the upper chamber 11. Contact your MAC Medial authorized service representative

Overheat Alarm (HI) Condition

When the cabinet temperature exceeds the setpoint by 10°F (or by 5°C) or the set temperature is lowered by more than 10°F (or by 5°C), the display will red HI and the audible alarm will sound. Silence the alarm by pressing ALARM RESET (Up ▲ arrow) until the alarm quits.

Turn off the Warming Cabinet chamber and wait for the contents to cool adequately. Then unload the contents using personal protective equipment to avoid injury. Reload the contents using the proper loading guidelines as previously mentioned in this manual.

Turn on the chamber and monitor performance. If the chamber continues to overheat into an alarm (HI) condition, turn off the chamber and contact your MAC Medical authorized service personnel.

Cleaning Stainless Steel Warming Cabinets

Stainless steel Warming Cabinets must be cleaned on a regular basis to prevent any unnecessary damage to the stainless steel surfaces. Spilled liquids and standing water should be cleaned up immediately.

When cleaning stainless steel Warming Cabinets, make sure to use the proper approved cleaning agents and cleaning materials to protect the surface and prevent damage or corrosion.

⚠ CAUTION: **DO NOT USE** these Cleaning Materials	⚠ CAUTION: **DO NOT USE** these Cleaning Agents
Abrasive Pads	Hard Water (water with a pH reading above 7.0).
Scrapers (metal or plastic)	Hydrochloric Acid
Steel Wool	Steam or high pressure water
Wire Brushes	Bleach or any compounds containing chlorine or Sodium hypochlorate, or ammonium chloride salts.

Approved cleaning materials and agents		
Soft, clean lint-free cloth	Non-abrasive cleaning pads	Soft bristle brush
Mild detergents	Sodium Bicarbonate (baking soda)	Distilled water (pH rating 7) alone or with a mild detergent
White vinegar (in a spray bottle)	Isopropyl Alcohol	Hospital-grade non-bleach disinfectants
Cleaners approved for use on stainless steel		

Cleaning Stainless Steel Surfaces

- Using a damp, lint-free cloth and approved cleaner, wipe down the entire exterior surface of the stainless steel warming cabinet. Using a damp, lint-free cloth with distilled water and a mild detergent, wipe down the entire exterior surface of the stainless steel sinks.
- Clean the Warming Cabinet with the stainless steel surface grain as shown here.

- Let cleaned Warming Cabinet air dry.

Cleaning Decals or Printed Labels

- Use only distilled water and a mild detergent applied with a clean, dry lint-free cloth to clean decals or printed labels.
- Cleaning agents can remove or smear any printing from decals and print labels.
- Cleaning agents can damage plastic materials used in manufacturing covers for electronic items such as touch-screen pads.

Disinfecting Stainless Steel

- Use a hospital grade non-bleach disinfectant. Always follow the manufacturer's instruction for proper use of these products.

Cleaning the Warming Cabinet Interior:

- Unplug and remove the Warming Cabinet from its power supply.
- ⚠ CAUTION: Turn OFF Circuit Breaker if Warming Cabinet is hard wired into the facility's electrical supply.
- Open the door and remove all adjustable shelves and shelf clips.
- Clean the adjustable shelves and shelf clips separately.
- Using a damp, lent free, cloth and approved cleaner, wipe down the interior of the cabinet.
- Use a lint free dry cloth to dry the cabinet's interior or let air dry. If air drying, ALWAYS leave the cabinet door open.

Cleaning Glass Doors (if applicable):

Use a commercially prepared ammonia-free glass cleaner or use distilled water and a mild detergent applied with a lint-free cloth.

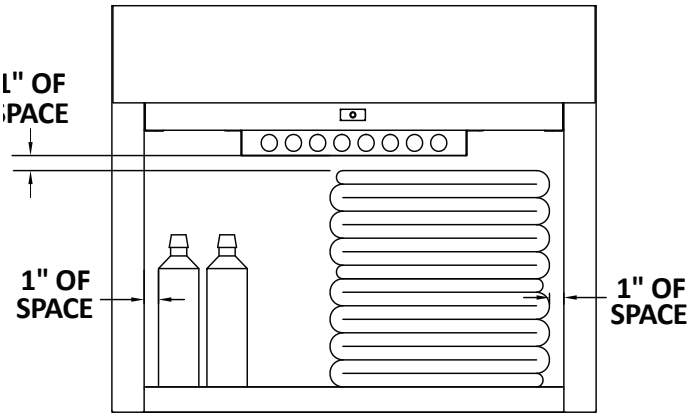
Preventative Maintenance Checklist

Operator Maintenance

Users are responsible for the thorough inspection of the equipment before and after each use. Should any problems or deficiencies arise, the results must be reported to the facilities maintenance personnel. The safety of personnel and patients relies on the proper and routine maintenance of this equipment.

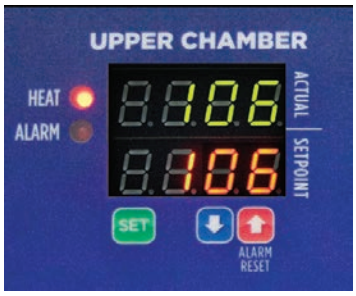
Daily Checklist

1. Ensure that the correct operation and maintenance manual is available to all users.
2. Ensure that all personnel using this appliance have been properly trained in the warmer cabinet operation and safety instructions.
3. DO NOT overload cabinet. Load contents (blankets or fluids) into the chamber with a minimum of 1 inch of space between walls and fan to allow for circulation (as seen below).



Weekly Checklist

1. Inspect condition of plug and cord. Replace if damaged.
2. Clean dust from back and side vents.
3. If any of the chamber shelves are unstable when setting objects on them, check the shelf clips that the shelves sit upon. Make sure these are not loose. If any are loose, snap back into place.
4. Check basket shelves (if applicable) and side rail condition. Do the baskets move smoothly and freely?
5. Check that all control indicators (heat and alarm) and LED display light up. LED Display panel must show lighted top and bottom displays. Heat light will stay on solid while the unit is heating up to its Set Point Temperature. Once the Set Point temp is reached, the light will begin to pulsate, and will continue to pulsate to maintain the Set Point temp.



6. Periodically check the alarm by setting the temperature ±15° from set point to test the alarm. If the temperature rises or drops 15° below its set point, the alarm should buzz and its light goes on. (Note: 90° is the lowest temperature point. To test alarm from this point, heat the unit up 15° beyond its lowest temperature, then bring the set point down to test the alarm.)

Monthly Checklist

1. Check condition of casters or feet. Ensure components are secure and tightly threaded.
2. Check control panel overlay condition. Are there any tears or excessive wear on the graphic? Does the control work properly when buttons are pushed?
3. Is the set temperature comparable to the actual temperature displayed? Check chamber air temperature with a quality thermocouple placed 1" (25mm) from the chamber. Do not allow the sensor to touch any surface. Monitor for approximately one hour in an empty chamber.

Semi-Annual Checklist

1. Check the temperature accuracy on a semi-annual basis by placing an IR Temp probe or thermocouple on calibrated meter near the fan inlet. In general, air temperature should be ±1°F for upper chamber and counter top units and ±3°F for lower chambers and large single cabinet units. See table column "Temperature Tolerance" on page 17 for details. If the cabinet is not within these guidelines, contact MAC Medical for further assistance.
2. Inspect the Fan blades for buildup of lint and other debris. Clean as necessary. **NOTE**: MAC Medical recommends replacing the Fan Motor with Fan blade (Part # - W0036 (120V)/ W0106 (220V)) every 2 years to ensure uninterrupted service.

Replacement Parts - General

D-Series Warming Cabinet replacement parts listed on this page have been identified by MAC Medical as serviceable by facility personnel and are available for purchase. To obtain MAC Medical certified parts and authorized services, contact your MAC Medical representative.

Item	Part #	Description	QTY
1	W0102 - Key	Key only - Key Lockout (2 keys per set) Single Chamber (1 set), Dual Chamber (2 sets), Triple Chamber (3 sets)	As Required
2	SWW0055	Adjustable Shelf	As Required
3	W0050	Handle, Stainless Steel Door , LH Upper, RH Lower (Dual/Triple Upper Chamber)	1
	W0051	Handle, Stainless Steel Door, LH Lower, RH Upper (Dual Lower Chamber, Triple Middle Chamber)	**1**
	W0052	Handle, Stainless Steel Door Single Chamber & Triple Lower Chamber	**1**
	W0053	Handle, Glass Door	**1**
4	H0006-1	8-32 X 1/2" Undercut Flat Head Screw (used with W0050, W0052, W0052)	3 per handle
	H0008-1	8-32 X 1/2" Screw (used with W0053)	2 per handle
5	W0043	Clip, Shelf	4 per shelf
6	W0135	Leg Leveler	4
7	W0600-S	USB Drive, Data Retrieval (1 per chamber)	As Required

Replacement Parts - Header Assembly and Electrical Drawer

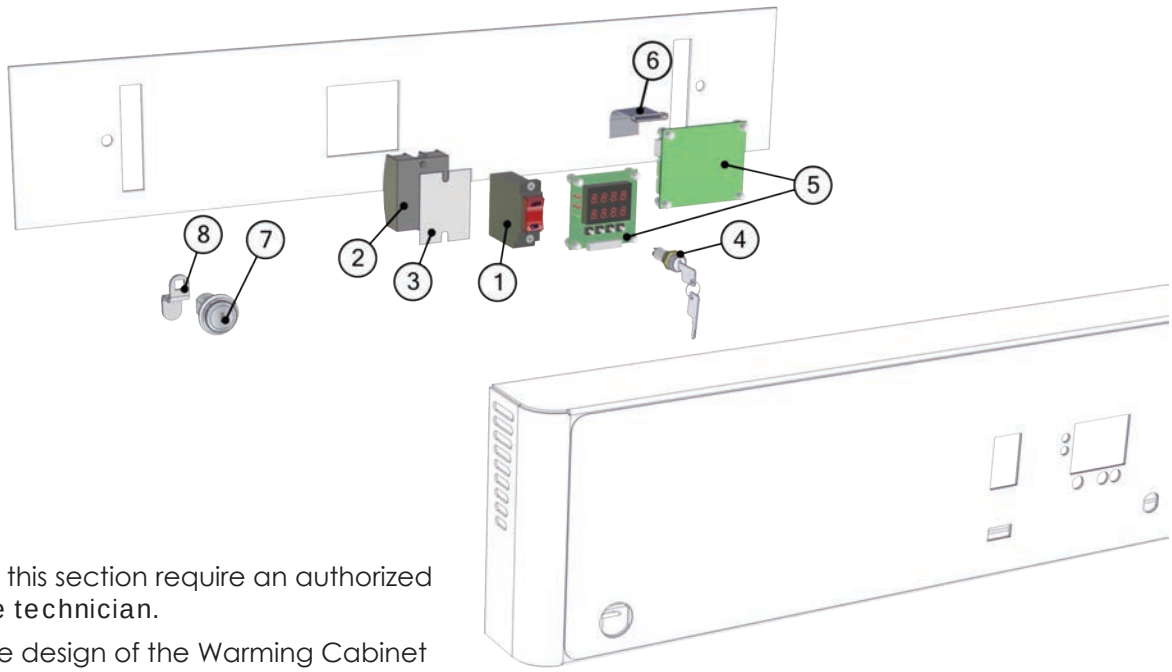


Fig. 27: Replacement parts in header assembly

The Parts identified in this section require an authorized MAC Medical service technician.

⚠ Injury Hazard: The design of the Warming Cabinet allows limited user serviceable parts or procedures. For optimal usage, safety and durability of the product, service must be performed by a MAC Medical authorized service technicians using MAC Medical authorized replacement parts and service techniques.

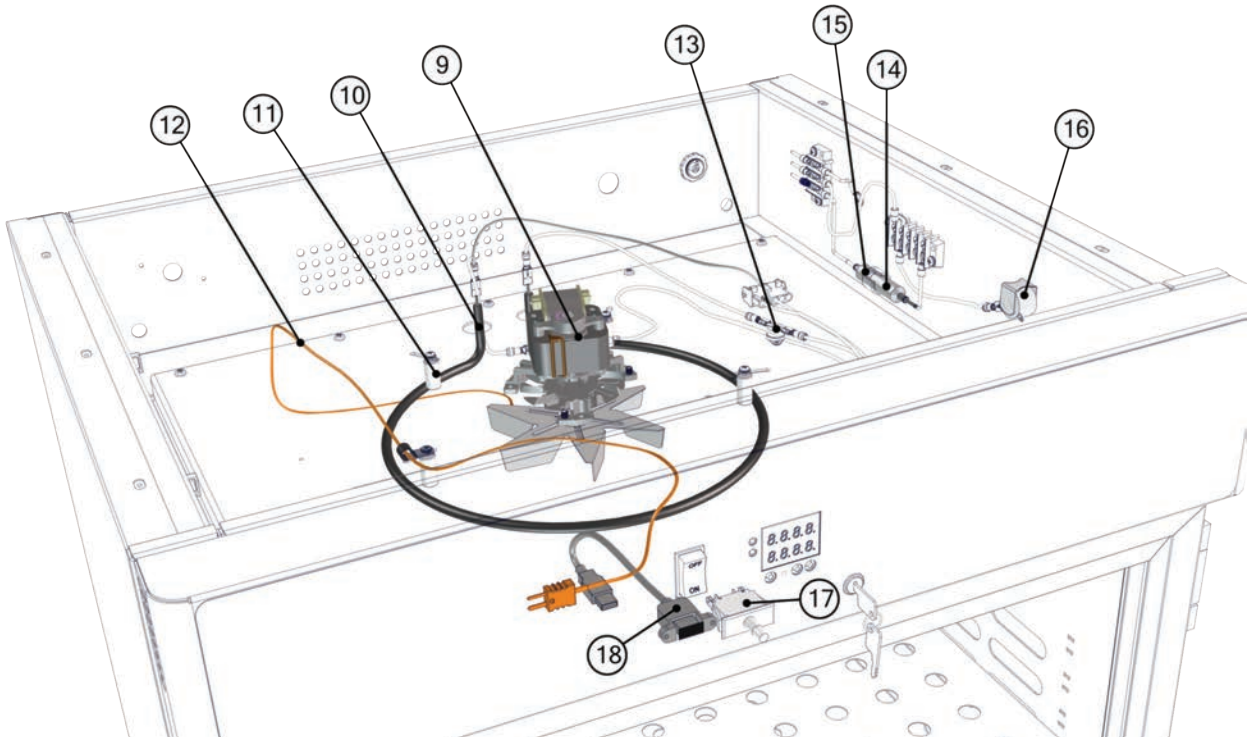


Fig. 28: Replacement Parts in drawer assembly

Table 1					
Item #	**Part #**	**Header Assembly and Electrical Drawer Parts Description**	**Item #**	**Part #**	**Header Assembly and Electrical Drawer Parts Description**
1	W0011	Power Switch	10	See table 2	Heating Element
2	W0083	Solid State Relay	11	W0010	Ceramics
3	W0137	Heat Sink Pad	12	W0037	Thermocouple
4	W0102	Key Lock Housing	13	W0042	Overtemp Thermostat
5	W0084-D	Control W/Data Display Logger	14	See Table 3	Fuses
6	W0108	10" Data Cable	15	W0004 W0188	Fuse Holder Fuse Holder (for 1518 models)
7	H0141	Cam Lock	16	W0013 W0013-220	Buzzer 110V Buzzer 220V
8	H0708-07	Cam Lock Latch	17	W0012 W0012-01	Door Switch Door Switch w/long stem (bottom glass doors on dual chamber units, all stainless steel doors)
9	W0036 W0106	Fan Motor with Fan blade (120V) Fan Motor with Fan blade (220V)	18	W0525-04	USB Plug to Panel Recept 12"

Table 2 (Heating Element - Item 10)			
Part #	**Size**	**Volt/Watt**	**Where Used**
W0131	8"	110V/350W	SWC151822
W0313-220	8"	220V/350W	SWC151822-220
W0069	9"	110V/350W	SWC182424, SWC243024, DWC182464, DWC182474E, DWC243024, DWC242474T, DWC183064T, DWC243074T, TWC243078
W0069-220	9"	220V/350W	SWC182424-220, DWC182464T-220
W0069-01	9"	110V/750W	SWC183064, SWC183074, SWC243074, SWC182464, DWC242474T
W0069-01-220	9"	220V/750W	SWC183064-220 SWC183074-220, SWC243074-220, SWC182464-220, DWC242474T-220, TWC243078-220
W0302	9"	110V/650W	SWC243036, SWC182424, SWC182436, SWC182474, SWC183036, SWC242424, SWC242436, SWC242464, SWC243064, DWC182474E, DWC183074E, DWC183064T, DWC183074T, DWC182464T, DWC182474T, DWC242474E, DWC243074T, TWC243078
W302-220	9"	220V/650W	SWC183036-220, SWC243036-220, DWC183074E-220, DWC182474T-220, DWC183064T-220, DWC243074T-220, DWC182464T-220, TWC243078-220
W0003	12"	110V/750W	SWC243024, SWC243036, SWC243074, DWC243024, DWC243064T, DWC243074E
W0107	12"	220V/750W	SWC182424-220, SWC182464-220, SWC183024-220, SWC242474-220, SWC243024-220, SWC243074-220, DWC182464T-220, DWC243074T-220, DWC242464T-220, DW242474T-220, DWC183064T-220

Table 3 (Fuses - Item 14)		
Part #	**Description**	**Where Used**
W0395 (220V)	Fuse 7A (2 needed)	All 220V Single Chamber Cabinets
W0396 (220V)	Fuse 10A (2 needed)	All 220V Dual/Triple Chamber Cabinets
W0124 (110V)	Fuse 15A	All 110V Single chamber cabinets
W0125 (110V)	Fuse20A	All 110V Dual and Triple chamber cabinets

Optional Cabinet Bases, Mobile Bases and Mobile Stands

All warming cabinets are shipped with a standard 4" base unless otherwise specified. The table on the right lists the base part number and sizes for various sized cabinets.

The two tables below list the mobile bases/stand part numbers for the single, dual and triple cabinets.

SWM0307-02 shown here

Part #	Base
SMW0307-02	4" base for 18 x 24 cabinets
SMW0359-02-WM	2" base for 18 x 24 cabinets
SMW0359-03-WM	6" base for 18 x 24 cabinets
SMW0062-02	4" base for 18 x 30 cabinets
SMW0047-08	2" base for 18 x 30 cabinets
SMW0062-03	6" base for 18 x 30 cabinets
SMW0308-01	4" base for 24 x 24 cabinets
SMW0308-05	2" base for 24 x 24 cabinets
SMW0308-04	6" base for 24 x 24 cabinets
SMW0047-03	4" base for 24 x 30 cabinets
SMW0047-10	2" base for 24 x 30 cabinets
SMW0047-09	6" base for 24 x 30 cabinets

Single Cabinet Model #	Mobile Stand/ BasePart #	Overall Dimensions
SWC151822	MS1518	18"D x 21"W x 34"H
SWC182424, SWC182436	MS1824	20"D x 28"W x 34"H
SWC183024, SWC183036	MS1830	20"D x 34"W x 34"H
SWC242424, SWC242436,	MS2424	26"D x 26"W x 34"H
SWC243024, SWC243036	MS2430	26"D x 34"W x 34"H
SWC182464, SWC182474	MB1824	21"D x 25"W x 6.75"H
SWC183064, SWC183074	MB1830	21"D x 31"W x 6.75"H
SWC242464, SWC242474	MB2424	27"D x 25"W x 6.75"H
SWC243064, SWC243074	MB2430	27"D x 31"W x 6.75"H

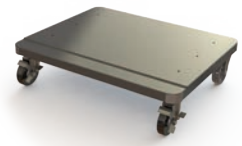
MS1518 & MS1824

MS1830 & MS2430

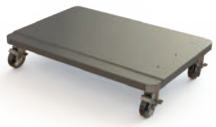
Dual/Triple Cabinet Model #	Mobile Base Part #	Overall Dimensions
DWC182474E, DWC182464T, DWC182474T	MB1824	21"D x 25"W x 6.75"H
DWC183064T, DWC183074T, DWC183074E, TWC183078	MB1830	21"D x 31"W x 6.75"H
DWC242474E, DWC242464T, DWC242474T	MB2424	27"D x 25"W x 6.75"H
DWC243064T, DWC243074E, DWC243074T, TWC243078	MB2430	27"D x 31"W x 6.75"H

MS2424

WB1518, WB1824, WB1830, WB2424, WB2430



MB1824



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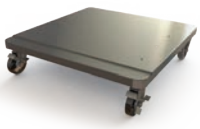
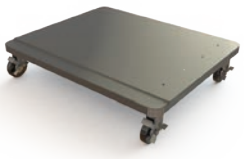


MB2424



MB2430

Roll Out Basket Part #	Warming Cabinet Model #	Basket Overall Dimensions
WB1518	SWC151822	11.5"D x 8.5"W x 2.5"H
WB1824	SWC182424, SWC182436, SWC182464, SWC182474, DWC182464T, DWC182474T, DWC182474E	16"D x 16.92"W x 5"H
WB1830	SWC183024, SWC183036, SWC183064, SWC183074, DWC183064T, DWC183074T, DWC183074E, TWC183078	15.88"D x 22.98"W x 5"H
WB2424	SWC242424, SWC242436, SWC242464, SWC242474, DWC242464T, DWC242474T, DWC242474E	21.75"D x 16.98"W x 5"H
WB2430	SWC243024, SWC243064, SWC243074, DWC243036, DWC243064T, DDWC243074T, DWC243074E, TWC243078	21.75"D x 23.10"W x 5"H

Steel or Glass Door Hinge Reversal

⚠ Before the Door Hinges can be reversed, the top and side panels of the cabinet must be removed, and the Cam Lock must be relocated.

Remove Panels

The Following steps for panel removal apply to cabinets with either steel or glass doors.

1. For both glass and stainless steel doors, remove the outside top panel by unscrewing the 4 top panel screws and lifting the panel out. Remove the inside top panel by unscrewing the 2 screws and lift the panel out (Fig. 29).

Fig. 29: Remove Top Panels

2. Remove the 2 screws located inside the cabinet (one on each side) near the bottom. (Fig. 30 and Fig. 31. Door removed for clarity in these illustrations.)

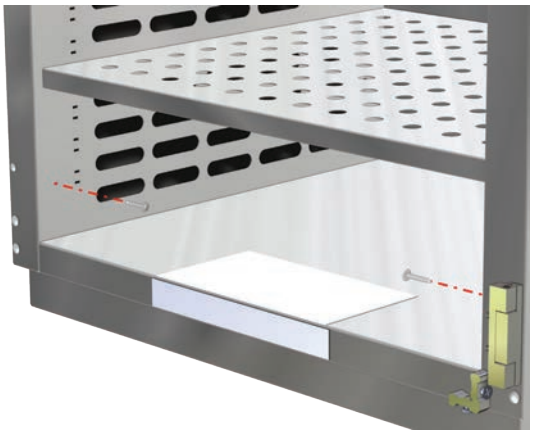


Fig. 30: Remove Interior Cabinet Screws - Glass Door Unit

Fig. 31: Remove Interior Cabinet Screws - Steel Door Unit

3. Remove the screws at the back of the cabinet and slide out both side panels

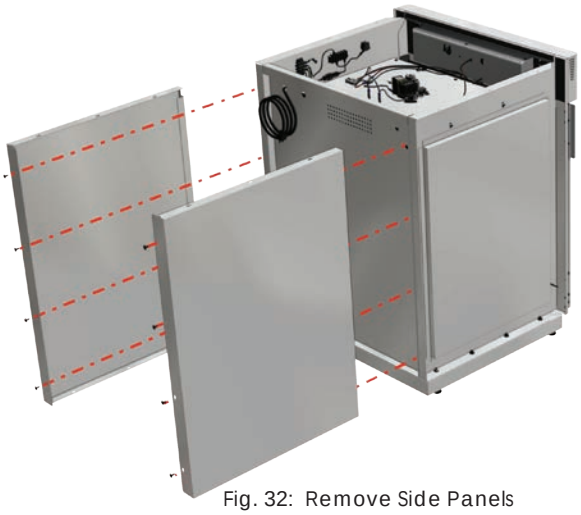


Fig. 32: Remove Side Panels

Remove Header Assembly Box & Relocate Cam Lock

Purchase Parts Needed for Cam Lock Reversal

- Felt Strip ST0014
- Plug W0098

The following steps apply to cabinets with steel or glass doors.

Cabinets are equipped with a cam lock in the header assembly. This must be moved to the other side of the header assembly box when the door hinges are reversed. The door itself has a cam lock plate which also must be moved near the new location of the cam lock (Note: Only top doors on multi-chambered have a cam lock plate.)

4. To remove the Header Assembly Box, unscrew 4 hex locking bolts from the header assembly box mounting plates and remove the header assembly box. (Fig. 33)

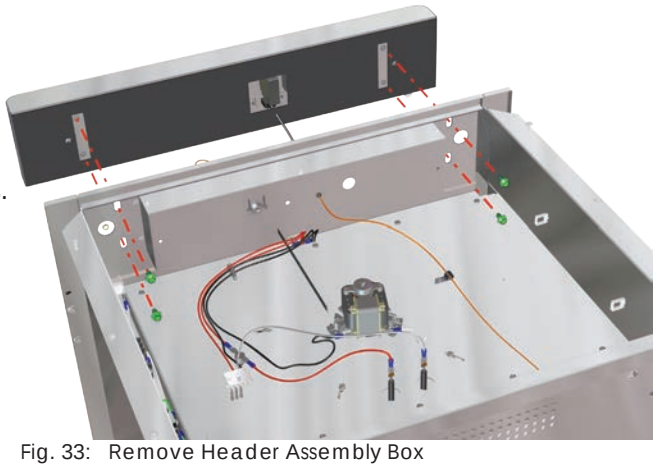


Fig. 33: Remove Header Assembly Box

Fig. 34: Cut Out Rectangular Sections from Gasket

5. To access the cam lock and its new location, cut an area out of the gasket cover in the location shown by the red rectangles (Fig. 34)

Fig. 35 shows the header assembly interior (gasket removed for clarity). The cam lock (in red rectangle) will be moved to the 2 oblong knock-out areas circled in red and highlighted in blue (Fig. 36).

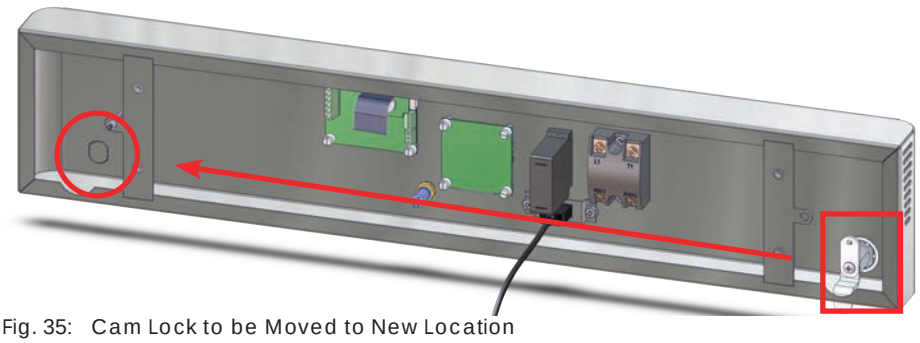


Fig. 35: Cam Lock to be Moved to New Location

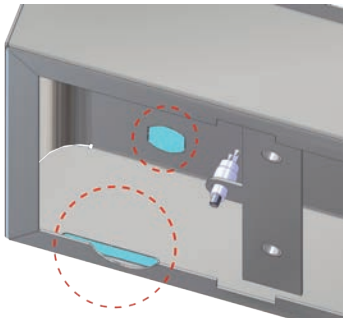


Fig. 36: Knock out areas

6. At the new cam lock location, remove the 2 oblong knock-out areas. Cut an oblong shape in the plastic overlay covering the short-wide oblong knock-out area to accomodate the cam lock when it is re-installed (Fig. 37 and Fig. 38). The narrow-long oblong knock-out area will be the slot the cam lock latch fits in.

Fig. 37: Overlay - Cam Lock Location - Right Hand

Fig. 38: Overlay-Cam Lock Location - Left Hand

7. To detach the Cam Lock assembly, unscrew the Phillips head screw from the Cam Lock Latch (Fig. 39).
8. Unscrew the Hex Nut and remove the Lock Washer.
9. Pull the Cam Lock body out from the face of the Header Assembly.
10. Insert purchased Plug (W0098) into the hole originally occupied by the lock.
11. To re-install at the new position, slide the Trim ring onto the barrel of the Cam lock, insert Cam Lock body through the oblong hole at the new position in the face of the header (Fig. 40).

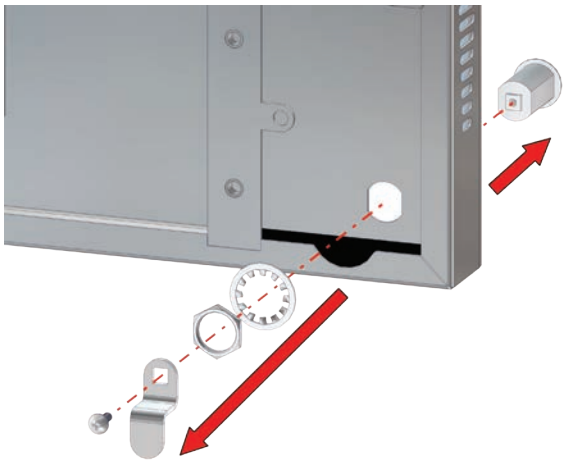


Fig. 39: Detach Cam Lock Assembly

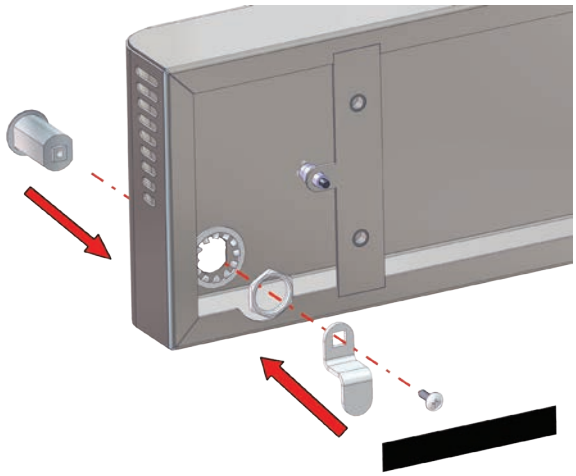


Fig. 40: Re-assemble and Re-install Cam Lock

Fig. 41: Assembled Cam Lock

12. Secure the Cam Lock body to the header by attaching the Lock Washer, then the Hex Nut.
13. Affix the Cam Lock Latch to the Cam Lock body and secure it with a 8-32 Phillips head screw.
14. Insert the purchased Felt Adhesive Strip (ST0014) between the Cam Lock Latch and the header. Position it to keep the cam lock latch from falling down when the key is in the lock (Fig. 42). When activating the lock, the latch will rub the felt strip.
15. Use a piece of Felt Adhesive Strip to cover up the old oblong hole where the cam lock latch passed through the bottom of the header.
16. Re-install the Header Assembly and secure to the cabinet with its 4 screws.

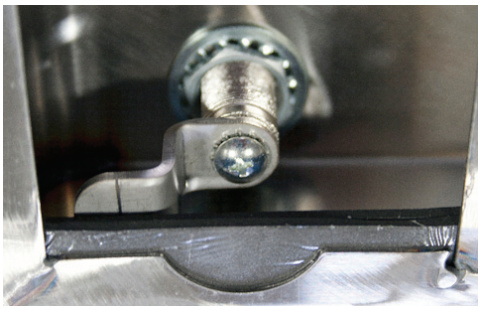


Fig. 42: Assembled Cam Lock with Felt Adhesive Strip

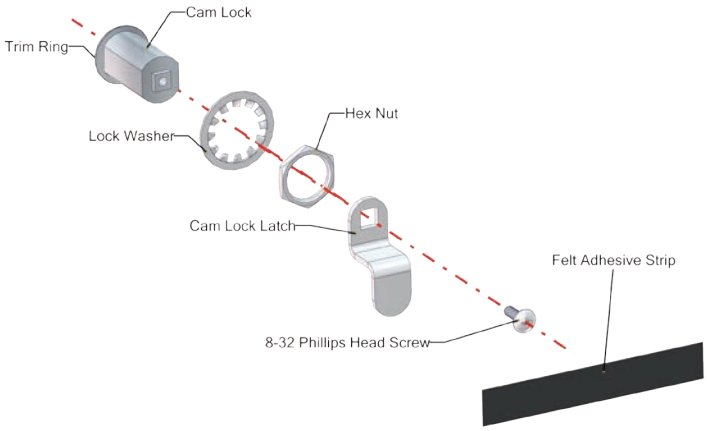


Fig. 43: Cam Lock Assembly Parts

Glass Door Hinge Reversal and Re-installation

Following are instructions for the removal, hinge reversal, and re-installation of Glass Doors.

Note: No additional parts are required to perform Glass Door hinge reversal. However, it may be necessary to drill holes in the bottom of the Glass Door to enable relocation of the Cam Lock Plate to its new position. The following tools will be necessary for this procedure:

- ***1/8" Drill Bit***
- ***8/32 Tap***

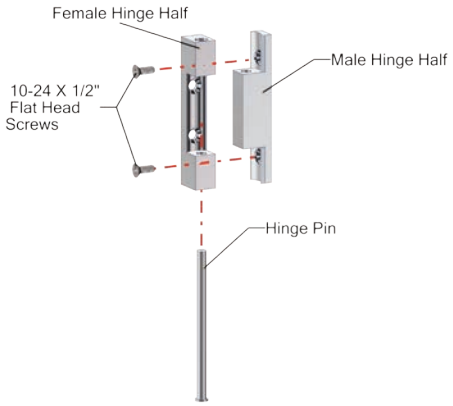


Fig. 44: Glass Door Hinge Parts

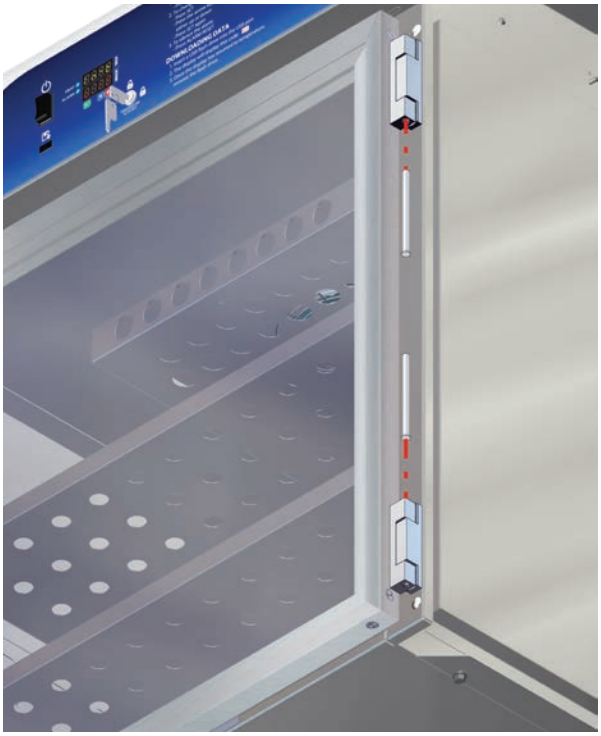


Fig. 45: Remove Door Hinge Pins

1. Using a drift pin (or a small headed screwdriver) and a hammer, detach the glass door from the unit by tapping lightly on the hinge pins, driving them through the two halves of the hinges. Then pull the door away from the unit to remove it (Fig. 45).
2. Detach the male halves of the glass door hinge by unscrewing them from the warming cabinet. The hinge halves on the door should remain in place (Fig. 46).

Fig. 46: Detach Glass Door Hinge - Male Half

3. Unscrew the Door Handle and Cam Lock Plate from their present position and move them to the other side of the door. Make sure to "mirror" the Cam Lock Plate so that its top flange will be flush against the warming cabinet when the door is re-installed in its new position (Fig. 47).

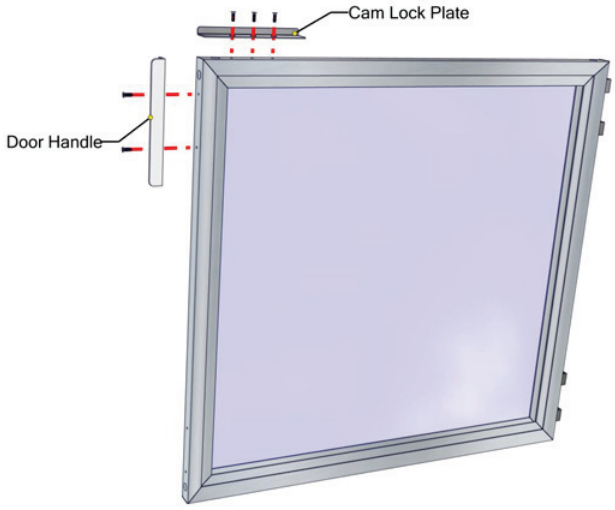


Fig. 47: Remove Cam Lock and Handle

4. If it is necessary to drill holes for the relocation of the Cam Lock Plate on the other side of the door,use the Cam Lock plate as a guide to mark the proper location of the holes to be drilled (Figure 48). The Cam Lock Plate should be positioned 1/8" from the outer edge of the door (Figure 49).

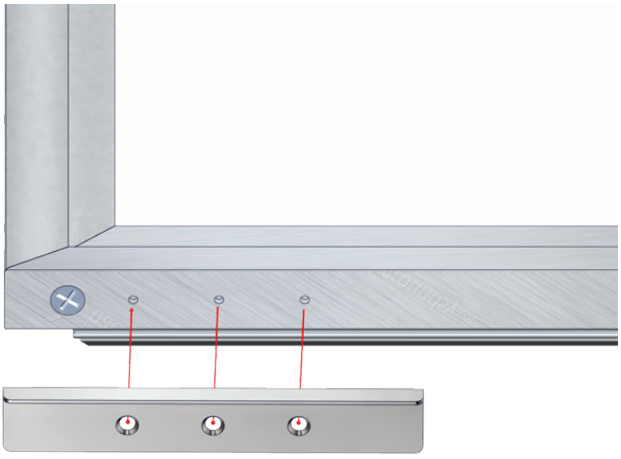


Fig. 48: Use Cam Lock for hole guide

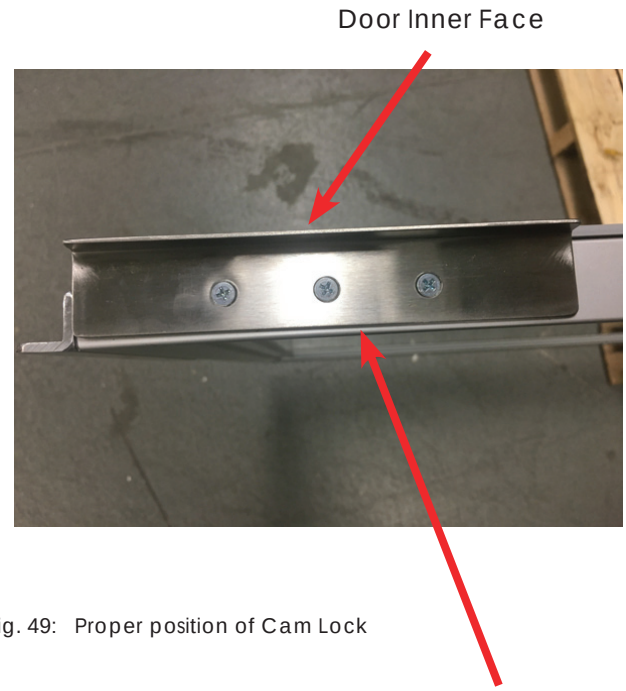


Fig. 49: Proper position of Cam Lock

5. Once the holes are drilled for the Cam Lock Plate, move both the Cam Lock Plate and the Door Handle to their new positions (Figure 50). When installed, there should be at least a 1/4" gap between the Cam Lock Plate and the face of the Cabinet (Figure 51).

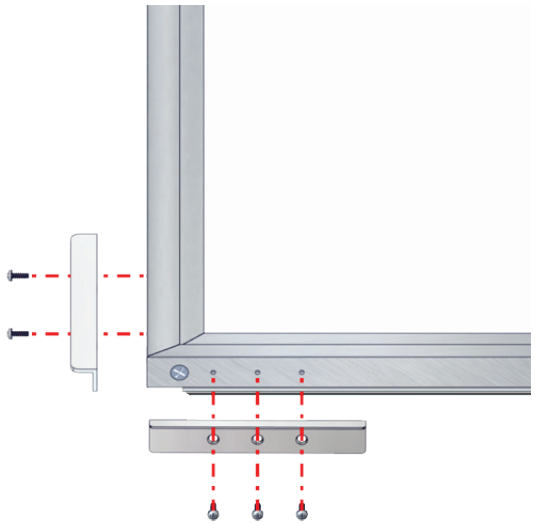


Fig. 50: Attach Cam Lock Plate and Door Handle

Fig. 51: Cam Lock Plate door gap

6. With the door handle and the cam lock plate in their new positions, rotate the door 180° (Fig. 52). Fig.53 shows its orientation when re-installing the door on its new hinge position.

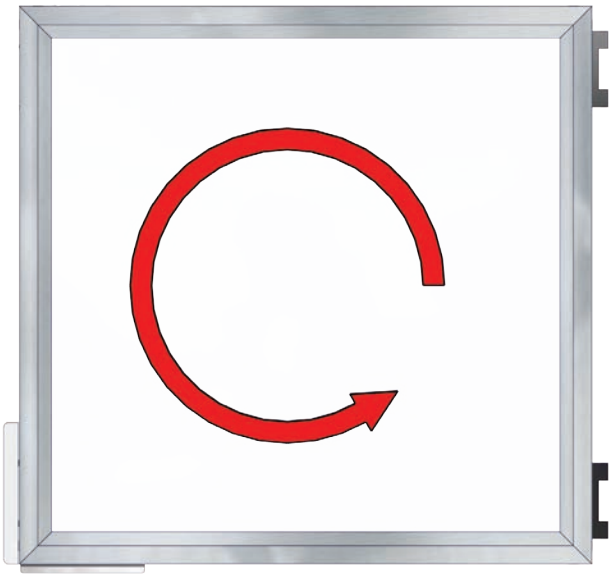


Fig. 52: Rotate Modified Door

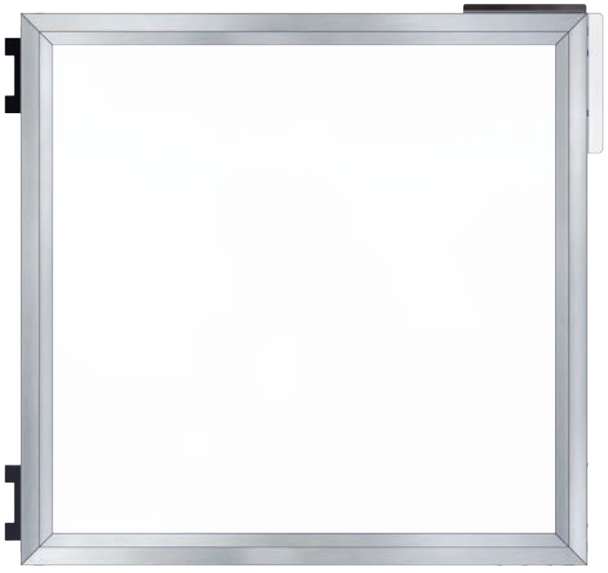


Fig. 53: Door Rotated to New Installation Position

7. Use a flathead screwdriver to remove the 2 smaller satin plugs (circled in red) from the top and bottom of the opposite side of the cabinet. These are the new hinge positions (Fig. 54).
8. Re-insert the 2 satin plugs (that were removed from the new hinge positions) in the old hinge positions.

Fig. 54: Remove Satin Plugs from New Hinge Position

9. Re-install the male halves of the door hinges in these positions. Do not tighten the screws at this point (Fig. 55).
10. Attach the glass door to the unit by fitting the two halves of the glass door hinges together, Before securing the door to its hinges, square the door by checking the door's alignment with the header assembly box. Then tighten the hinge screws (Fig. 56).

Fig. 55: Install Male Hinge Halves in New Position

Fig. 56: Check Alignment - Square Door

11. To secure the door to its hinges, drive the hinge pins through the two halves of the hinges. Both pins should be driven into the hinges from the inside to the outside as shown in Fig. 57.
12. Re-attach and secure the side panels to the warming cabinet with its screws.
13. Re-insert the 2 interior cabinet screws near the bottom of the cabinet chamber.
14. Re-install the inner and outer top panels and secure with its screws.

Fig. 57: Insert Hinge Pins

Steel Door Hinge Reversal and Re-installation

Purchase Parts Needed for Door Hinge Reversal

- Intermediate Hinge (for multiple door units only) W0015 (Right Hand) or W0016 (Left Hand). Obtain the intermediate hinge opposite of the currently installed hinge.

1. Loosen the nuts on the bolts that hold the top door hinge onto the unit. Hold the door as you remove the nuts so the door does not fall on you. Once the nuts are removed, the door can be leaned away from the unit and lifted off the bottom hinge (Fig. 58).

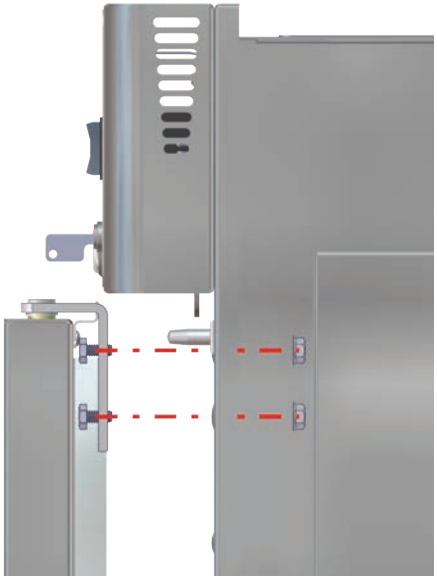


Fig. 58: Remove Steel Door

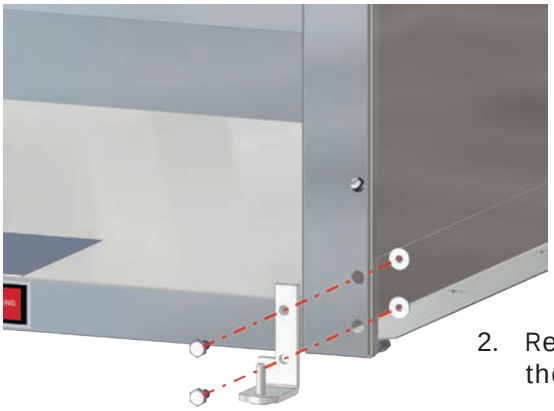


Fig. 59: Remove Bottom Hinge

2. Remove the nuts that fasten the bottom hinge to the unit and remove the screws and bottom hinge (Fig. 59).

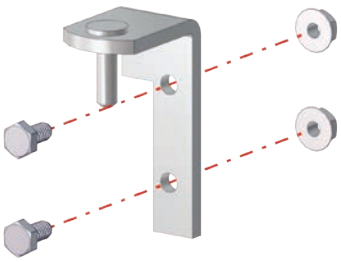


Fig. 60: Steel Door Hinge Parts

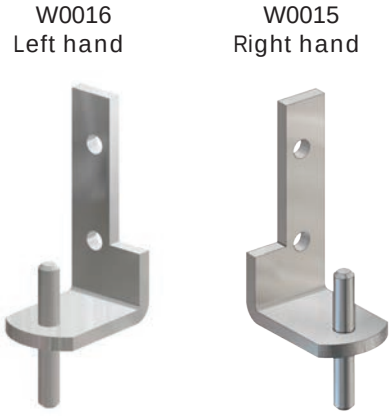


Fig. 61: Intermediate Door Hinge

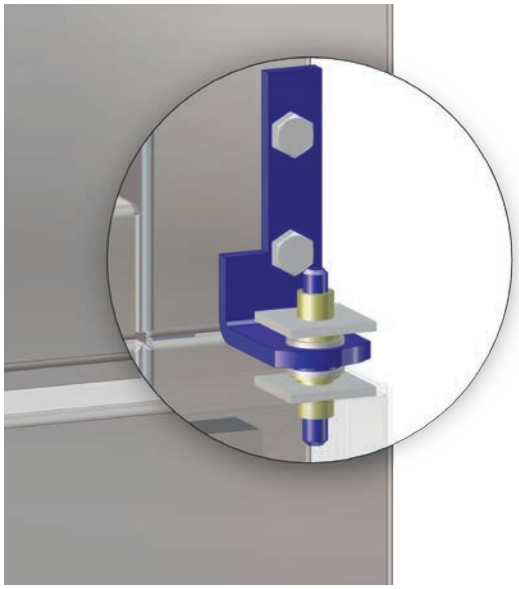


Fig. 62: Intermediate Door Hinge in Place

Note: For warming cabinets with more than one door, an intermediate hinge (Fig. 61) fits between the bottom of the top door and the top of the bottom door of the dual chambered warming cabinet (shown in blue in Fig. 62. (Middle doors on Triple chamber warming cabinets use only intermediate hinges for both top and bottom.)

Intermediate hinges come as either right hand (part #W0015) or left hand (part #W0016) hinges. Purchase the intermediate hinge that is the opposite of the current one on your warming cabinet.

If the unit has multiple doors, remove the intermediate hinges by unscrewing them from the cabinet.

3. After the door is removed, unscrew the Door Handle and Cam Lock Plate from their present position and move them to the bottom of the door. Be sure to "mirror" the Cam Lock Plate so that its top flange will be flush against the warming cabinet when the door is re-installed in its new position (Fig. 63).
4. With the door handle and the cam lock plate transferred to their new positions, rotate the door 180°. This will be its orientation when re-installing the door on its new hinge position.

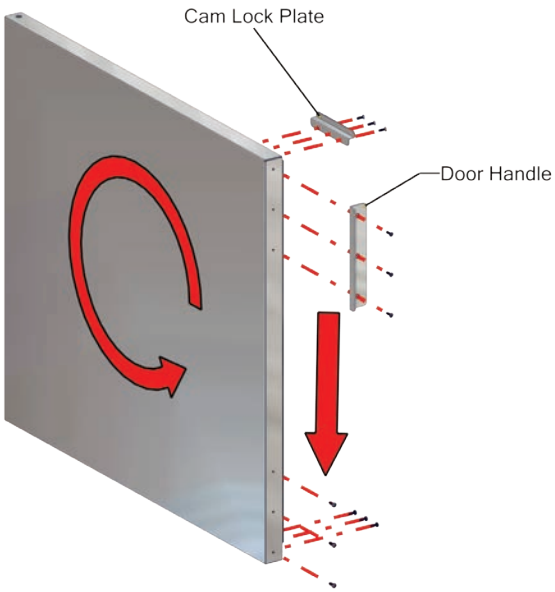


Fig. 63: Move Door Handle and Cam Lock Plate

Fig. 64: Remove Satin Plugs

5. From the opposite side of the cabinet, use a flathead screwdriver to remove the 2 top satin plugs (Fig. 64) from the top and the 2 lowest bottom satin plugs. These are the new hinge positions.
6. Re-insert the 2 satin plugs (that were removed from the new hinge positions) in the old hinge positions.

7. Attach the bottom hinge in the new position to the bottom of the unit using the hardware provided (Fig. 65).

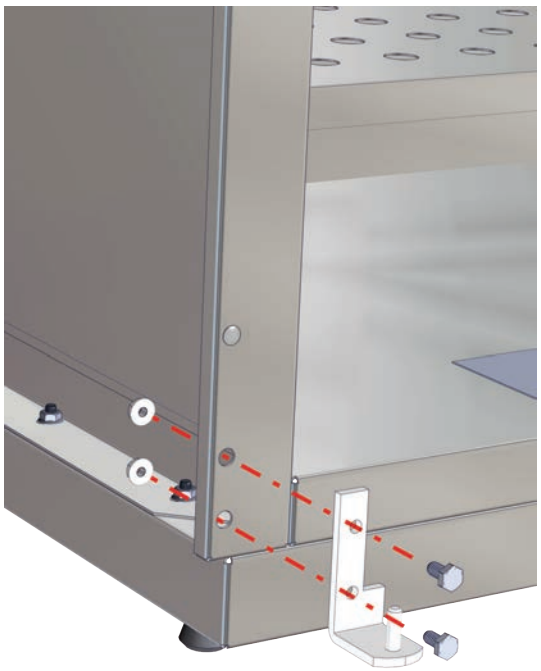


Fig. 65: Install Bottom Hinge in New Position

Fig. 66: Door Hinge Socket

8. Look at the socket located on both the top and bottom of the door (circled in red in Fig. 66). The pins of the door hinges will insert into these. Fit the bottom socket of the door onto the bottom hinge pin. Support the door on its bottom hinge while you prepare to affix the door to the top hinge.
9. Insert the screws into the top hinge (or intermediate hinge, if applicable). Then insert the hinge pin into the top socket of the door, aligning the hinge screws with the top (or intermediate) hinge holes on the unit as shown in Fig. 67.

10. From the side of the unit, secure the door and top hinge with the hinge nuts shown circled in red in Fig. 67.

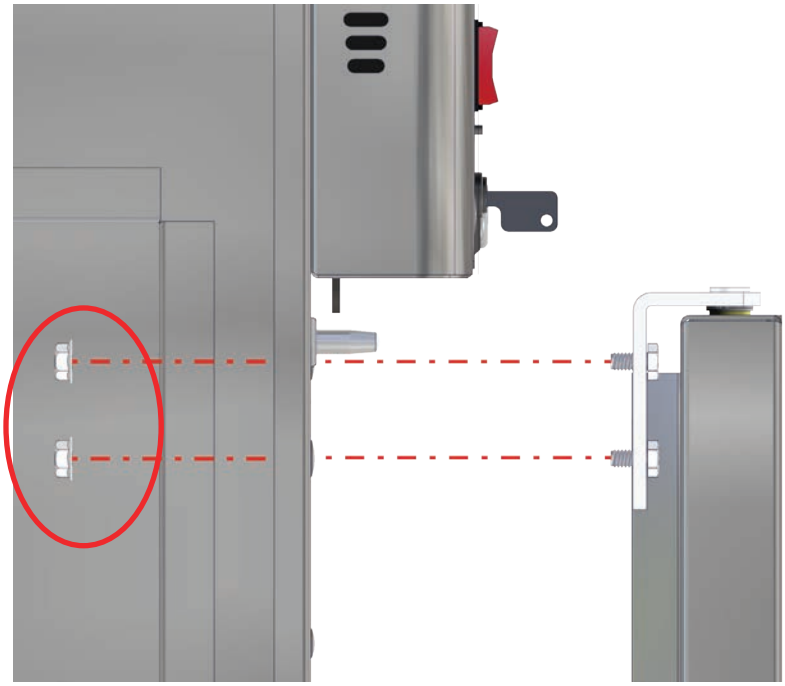
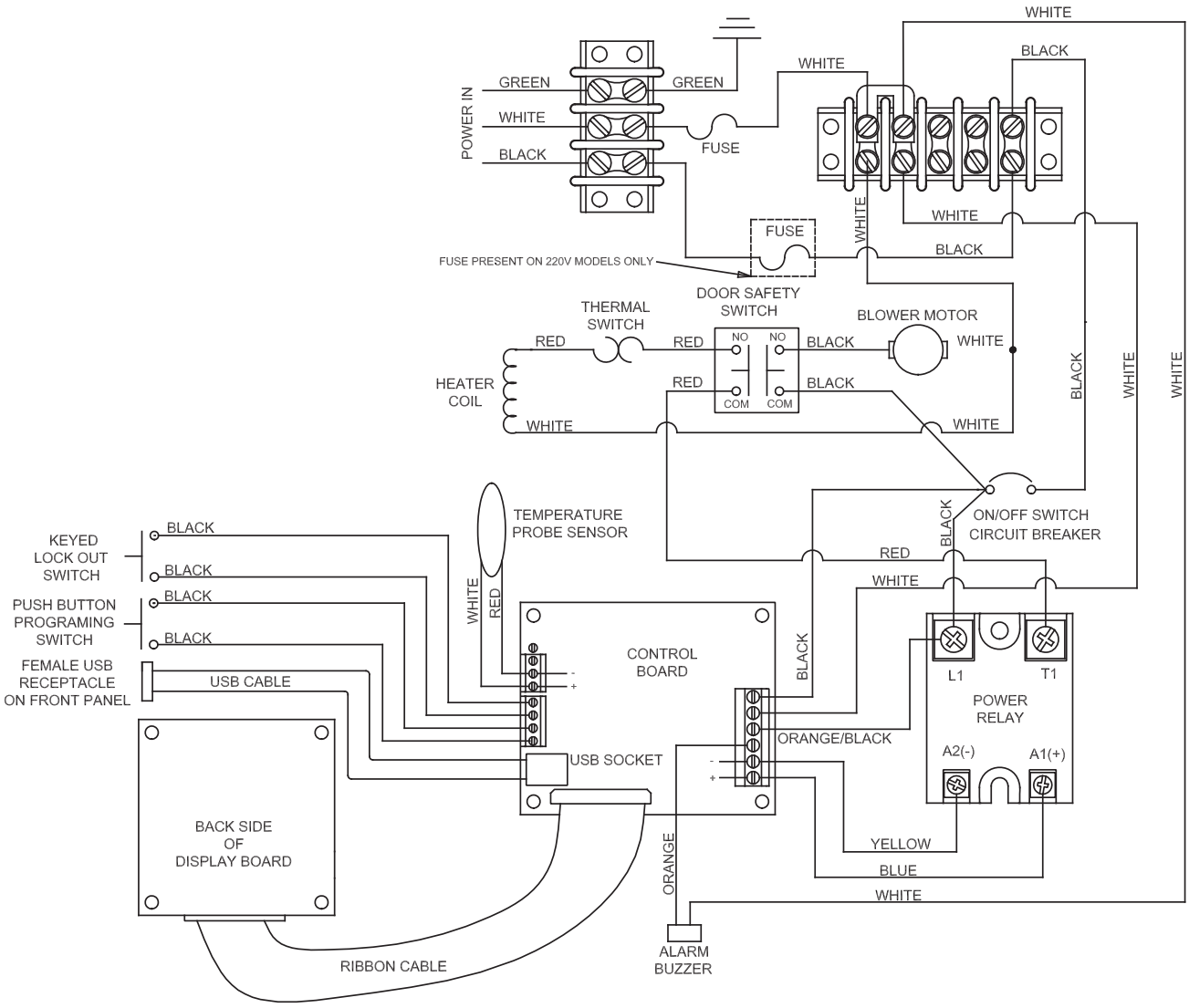


Fig. 67: Install Top Hinge and Secure Door

11. Square the door by checking its alignment with the header (Fig. 68 shows a glass door, but the same applies for the steel door). Then tighten the hinge nuts.
12. Re-attach both side cabinet panels with its screws
13. Re-insert the 2 interior cabinet screws near the bottom of the cabinet chamber.
14. Re-attach the inner and outer top cabinet plates.

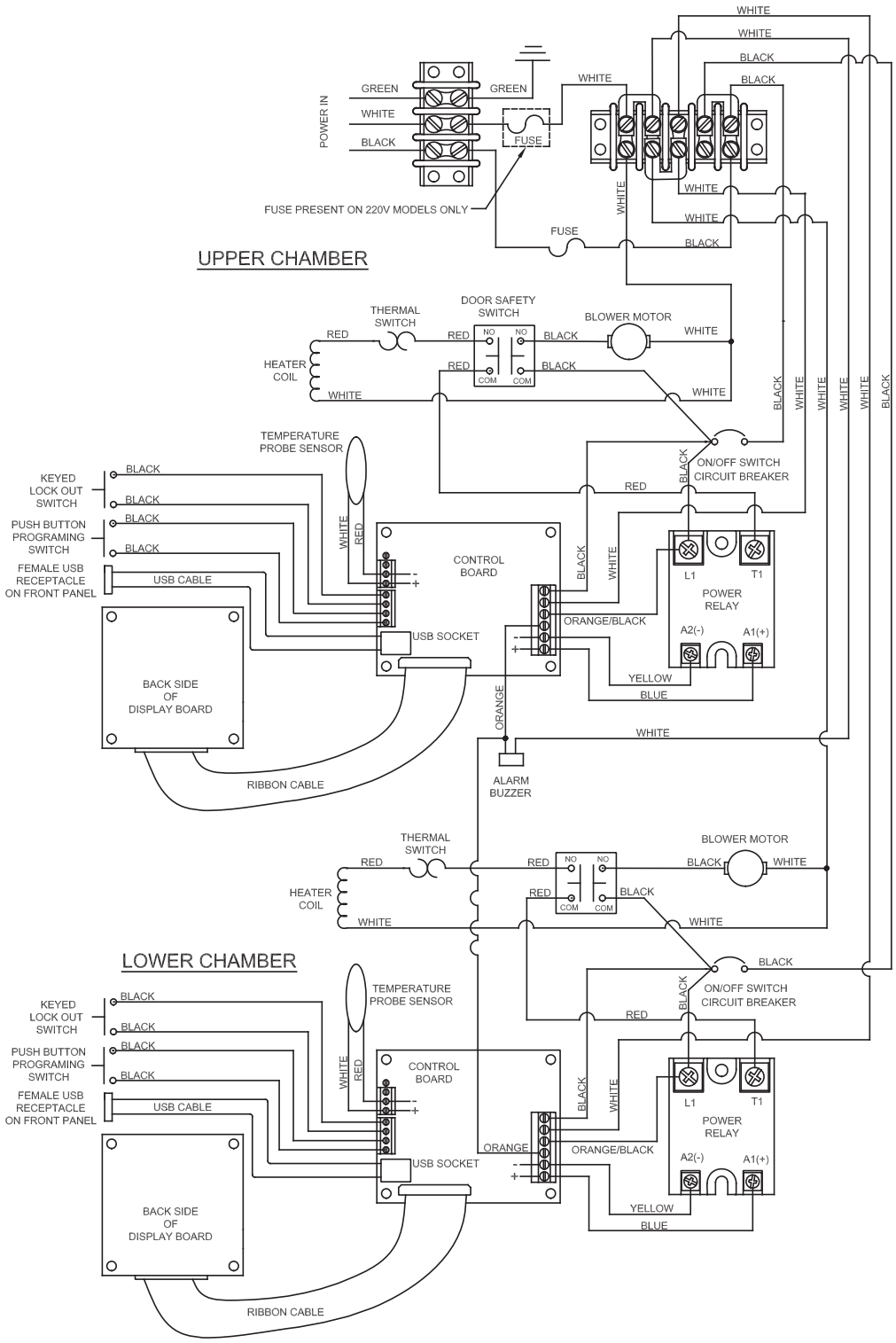
Fig. 68: Check Alignment - Square Door

Wiring Diagram - Single Chamber Warmers



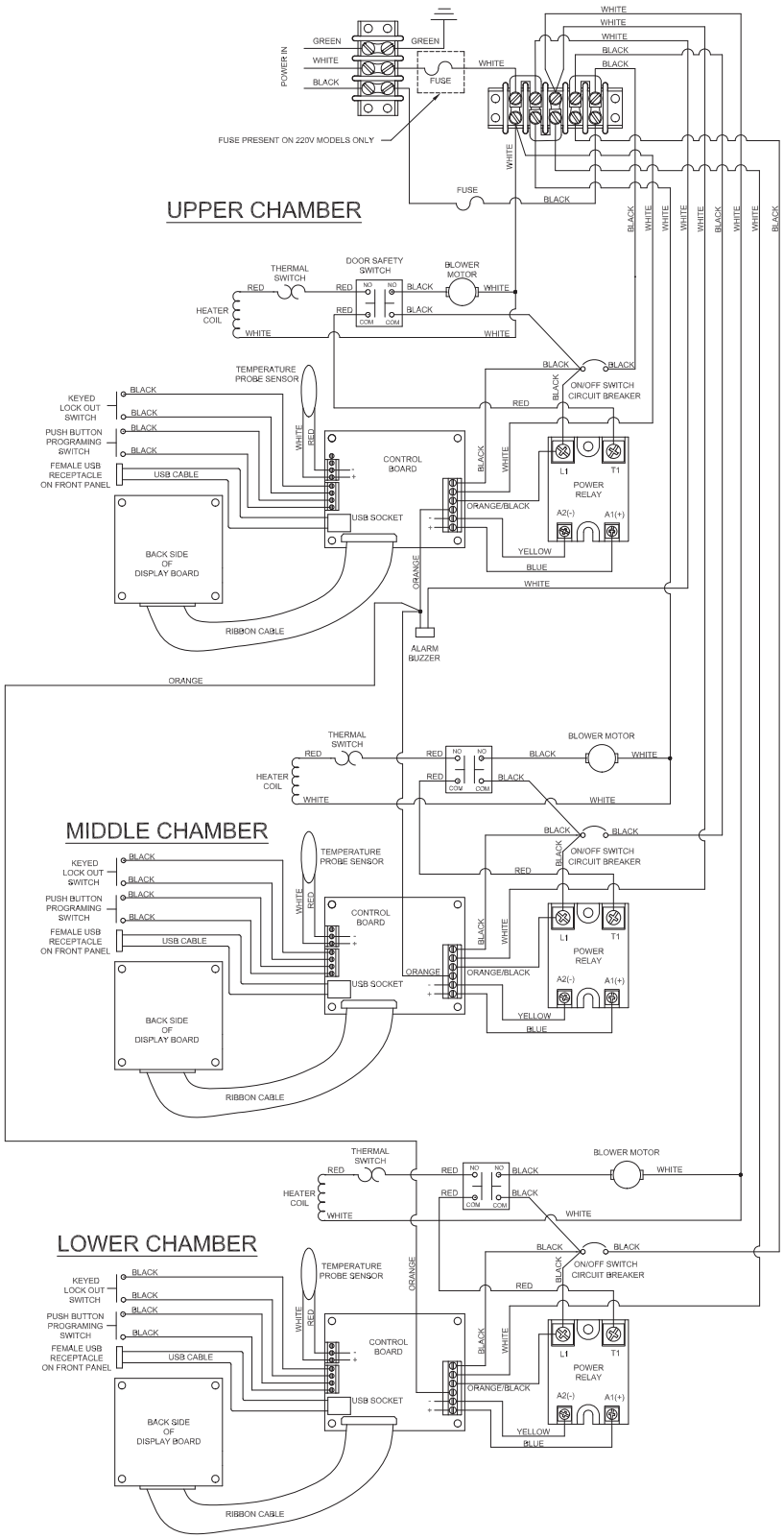
CONNECTIONS FOR SINGLE USB WARMING CABINETS

Wiring Diagram - Dual Chamber Warmers



CONNECTIONS FOR DOUBLE USB WARMING CABINETS

Wiring Diagram - Triple Chamber Warmers



WIRING CONNECTIONS FOR TRIPLE USB WARMING CABINET

Index

C

Cabinet Bases, Mobile Bases and Mobile Stands 27
Cleaning 22
- Approved cleaning materials and agents 22
- Decals or Printed Labels 22
- Disinfecting Stainless Steel 22
- Glass Doors 22
- Prohibited Cleaning Materials & Agents 22
- Stainless Steel Surfaces 22

Controls 16
- Control Components 16

D

Door Hinge Reversal 28
- Glass Doors 32

I

Installation 12
- Direct Wiring to Facility Power Supply 14
- Environmental Conditions 12

M

Maintenance 23
- Daily Checklist 23
- Monthly Checklist 23
- Semi-Annual Checklist 23

O

Operation 15
- Display Panel 17
  - *Set Processing Temperature 17*
- Items permitted for warming 15
- Items prohibited for warming 15
- Power Failure 15
- Proper Content Loading 15
- Recommended Settings 15

P

Patient Safety
- Maximum Warming Temperature Limit 20

R

Replacement Parts
- General 24
- Header Assembly and Electrical Drawer 25

S

Shelves
- Adjusting 18
- Installation 18
- Roller Basket
  - *Adjusting 19*
  - *Installation 19*
  - *Part Numbers 27*

Specifications 7
- Cabinet Construction and Material 7
- Electrical Specifications 7
- Factory Presets 7
- Power Requirements 7

T

Temperature Issues
- Checking Accuracy 23
- Data Retrieval 20
- Temperature Set Points 17
- Temperature Tolerances 17

Troubleshooting 21
- Alerts 21
- Overheat Alarm (HI) Condition 21

U

Unpacking 11
- Inspection 11
- Receiving Requirements 11

W

Warming Cabinets
- Interior Dimensions & Capacity 5
- Main Features 8
- Models 4
- Overall Size 4
- Turning Off 20
- Unloading 20
- Usable Chamber Space 6

Warnings and Cautions 9
- Intended Use Notice 10
- Special User Attention 10

Warranty Information 47
Wiring Diagram
- Dual Chamber Warmers 41
- Single Chamber Warmers 40
- Triple Chamber Warmers 42

Preventative Maintenance Record

For your convenience, here is a simple chart to use to note which personnel have been trained to safely use and maintain the warming cabinet.

Personnel Trained	Daily Operation	Safety Instruction	Cleaning Procedures

This chart refers to the procedures on the "Preventative Maintenance Checklist" on page 56.

Date of Weekly Inspection	Date of Monthly Inspection	Date of Semi-Annual Testing

Notes

Notes

Notes

Limited Lifetime Warranty

MAC Medical warrants to the original purchaser that its Proprietary Products will be free from defects in workmanship or materials under normal use and service for the life of the product, so long as owned by the original purchaser, according to the limitations set forth below. Defective products shall be repaired or replaced at MAC Medical's option at no cost to the original purchaser provided:

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